The Moral Economy of Supervisor Kickbacks and Its Significance of Corruption

Supplemental Ethics Appendix

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A. Background to the Ethics' Challenges Raised by the Study

The background of the Democratic Republic of the Congo's state at the time of our study is crucial to inform discussions about feasibility and about the ethics of experimentation and data collection. We thus begin with a description of the state in the Democratic Republic of the Congo (DRC). For more details, see Titeca and Malukisa (2018).

Since the late 1970s, processes of state disintegration in sub-Saharan Africa have strongly impacted on the capacity of public administrations. Administrations have suffered from material and technical under-resourcing, organisational deficits and a lack of funds to pay its civil servants. Public services have been severely diminished (Bierschenk (2010b): 7-8, Bates (2008), Van de Walle (2001)). The working resources for civil servants seriously declined, civil servants had to "*fend for themselves*" by using their state position to secure other sources of revenue, a process which Blundo (2006): 805, describes as "*informal privatisation*." These dual processes of disintegration and informal privatisation profoundly impacted the functioning of the state, leading to slow procedures and bottlenecks, opacity, various form of negotiation at all levels of the state's hierarchy, embezzlement with impunity and personalisation (Blundo (2006): 806-815).

This was particularly intense in the DRC. First, the disintegration of the DRC state has resulted in practices of clientelism and patronage (Nzongola-Ntalaja, 1986, Schatzberg, 1991, Boyle, 1995, Lemarchand, 2001, Young and Turner, 1985, Zartman, 1995). The DRC is widely seen as the "*paradigm of informalisation and criminalisation of the state and the economy*" (Petit and Mutambwa, 2005), fuelled by over 30 years of patrimonialism under ex-President Mobutu and six years of civil war. Callaghy (1987) described the Congolese state as a "*lame Leviathan*," which is simultaneously "*soft, yet highly coercive*." It is weakened by patrimonialism and corruption "*such that the performance of key functions slowly declined and in some cases disappeared completely*," but continues to be controlled through military control and external support.

This decline in governance had an impact on the behavior and functioning of individual civil servants. Gould (1980): 69, described the situation of civil servants in the 70s as "*abject impoverishment ... Negligence of their social needs leaves them to their own devices*." Ex-President Mobutu's famous quote "*Moto na moto abongisa*" or "*Let each person sort things out at his own level*" had a marked impact on the public administration and society

at large – it was "*ironically*" reinterpreted in relation to the old marshal's kleptocratic behaviour, as an invitation for "*each and every one to steal at his own level of responsibility*" (Petit and Mutambwa, 2005: 482). In the words of Lemarchand (1988), what happened was a privatisation of state positions or the drawing of "*personal benefits ... from the appropriation of public office*." The state continued to hire civil servants but assumed that they would "*steal cleverly*" (Titeca and de Herdt, 2011b).

Although the state budget increased over the years through the renewed engagement of donors throughout the 2000s (Titeca and de Herdt, 2011b), these practices remained, termed by (Bierschenk, 2010a): 114, the "*capacity of legal command*." Nzeza Bilakila (2004) calls this "*la coop*" or the "*Kinshasa bargain*:" an agreement between two or more parties that provides a return: a civil servant asking for "*something extra*;" someone trying to obtain a favour from a civil servant; negotiating a price with a trader or taxi, and so on. In this situation, "*all the state's usual attributes have been influenced by informal privatisation ... public officials – or those pretending to be – have taken over the customary functions and prerogatives of the state, selling their services* " (Petit and Mutambwa, 2005): 467.

In this context, civil servants continue to compete for the most profitable position, where they have the best access to the extraction from citizens. Administrations were transformed into "*parcels of power*," *in which "each position in the administration providing not only a wage, but also an opportunity for appropriation*" (De Herdt, 2015): 49. This aspect is particularly important when considering collaborations with civil servants. In many cases (and the degree depends on the specific agency), the main source of income of civil servant arises from appropriation opportunities and other advantages offered by their position, rather than the government wage itself.

Giving someone a position as a civil servant is largely beneficial due to the opportunities the position gives for appropriation activities, additional sources of income, the creation of new relationships and, in some cases, the opportunity to offer jobs. We can now discuss the ethics of the study in the context in which it was conducted.

B. Policy Equipoise

A normative dilemma could arise in clinical trials if researchers withhold from the control group a benefit known to be effective, for the purposes of research.

In this study, we consider three treatments: the income top-up treatment, and the two income top-up treatment sub-treatments: high vs. low income top-up and notified vs not notified supervisor. We analyze them separately.

B1. The Ethics of Randomization of the Income Top-Up Treatment

The income top-up treatment component allocates randomly, to given team of agents-days, a monetary transfer. The amount of the transfer is equal, on average, to the unofficial income generated by a police agent in one day (17 USD per agent).

Clear benefits of the treatment. There is a large literature showing the benefits of income or cash transfers, and this knowledge informs major development strategies across the world. Thus, at the time of randomization, both the research team and the research community had strong priors that the income top-up treatment would likely generate benefits to the recipients.

Roll-out design implies no violation of policy equipoise across subjects. However, all the study participants were selected to receive the same number of times the income top-up treatment. This was a roll-out study design, where we randomized, within participant (specifically, within team) the set of days in which each participant would receive the income top-up treatment. Stratifying by team of agents, we ensured that all participants received, over the study period, the income top-up treatment the same number of times. This design ruled out any imbalance between the total income transferred to the treatment and control groups.

The discussion on the ethics of randomization is thus confined to: a. whether receiving the income in a given day vs. another involves a violation of policy equipoise arising from within subject randomization (allocation between present and future self); b. whether withholding benefits from some subjects and not others in a given day, even if all receive overall the same benefit overall, involves a violation of policy equipoise arising from within day across participant allocation.

We now analyze the two necessary and sufficient conditions for randomization to be ethical when policy equipoise is violated: scarcity of the treatment, and asymmetric legal or moral claims to receiving the treatment. In conducting this analysis, we remind the reader that those apply to within individual across day allocations, since the roll-

out aspect of this design ensures that the expected discounted benefits are equal across participants, thus policy equipoise is not violated across participants.

Scarcity. There was unambiguously scarcity for the assignment of this treatment. The cost of the treatment included not just the value of the envelope being delivered to the recipients (an average of 17 USD per recipient for each day they were assigned to receive the income top-up), but also the logistical costs of delivering the envelope in the form of the wage of the income top-up delivery team. The inclusion of the income top-up treatment, compared to the control, was costly and the budget for delivering cash was limited to all the funds that we were able to deliver. Any increase in the income given to a participant in a given day would have come at the expense of income top-up to themselves in the future or to other participants in the same or other days.

Symmetric claims to the treatment. All participants are selected from the same population. They are the universe of agents in the battalion we could study (except for those we could not include in the study due to security considerations as described in the paper). Of the remaining subjects, those who took part of the study, we had no specific knowledge about any individual, hence no ability to determine whether some of them had more moral or legal claims to the scarce income top-up treatment than others at the outset. Since the income top-up treatment was delivered in a roll-out design, the question then is whether, in any given day, the research team was aware (or could have been aware with reasonable inquiry) of any asymmetric claim to the income top-up benefit that would warrant reallocating the income top-up treatment within participant across the days. Ex-ante (prior to the study) and ex-post (at the time of drafting the paper) we found no reason to justify why receiving the income in a particular day was morally or legally superior than in other days. I However, we had no ability to conduct the study at any other period of time and, within the period in which the study took place, there was no asymmetric moral claim for allocating the income top-up treatment in some days.

B2. Assignment to Whether the Supervisor Was Given Notice of the Income Top-up Treatment Status (Supervisor Notified Treatment)

In all study days, the income top-up treatment arm was decomposed into two treatment arms. Team of agents-days assigned to the income top-up treatment were then randomly

assigned to different types of implementation instructions concerning who is given notice about a given treatment status. Specifically, in one treatment arm, the supervisor was notified at the start of the day that a given team was receiving the income top-up treatment that day (*Supervisor Notified*); in another treatment arm, the supervisor was not informed by our team (*Supervisor Not Notified*).

Ex-ante, clear distributional impacts of the treatment. At the time of the randomization design, there no equipoise for randomizing this treatment. From the perspective of the subjects receiving the income top-up treatment, we anticipated that being part of the *Supervisor Not Notified* treatment would be more beneficial, as we anticipated that they would be "taxed" less by their supervisors.

Ex-post, clear lack of benefits of the treatment: equipoise. An important aspect of this experiment is that, in the first days of implementation, we learnt that the supervisor was always informed, thus there was de facto no violation of policy equipoise from the very first days of the study. Specifically, after two days of implementation, it became clear to us based on the reports from all the different field teams meeting with us daily, that the *Supervisor Not Notified* treatment was not going to make a difference. We learnt that the Grades d'Elite, the leaders of the team of four agents in the teams, were the "eyes and ears" of the supervisors in the field. The supervisors successfully colluded with the Grade d'Elite to ensure that the supervisors were informed about any source of income accruing to the teams. For this reason, for this treatment, while there was no equipoise at the time of the study design, there was equipoise at the time of the study's implementation. Equipoise was created as the team was genuinely no longer sure whether the *Supervisor Not Notified* would have any beneficial impact on the agents.

Despite we learnt in the first days that there would be equipoise, we now nonetheless discuss the issues arising in the ex-ante dilemma, at the time of the study's design, concerning the question of policy equipoise for this treatment.

Roll-out design implies no violation of policy equipoise across subjects. Just as with the randomization of the income top-up treatment to treatment or control, all the study participants were selected to receive the same number of times the *Supervisor Not Notified* treatment. We randomized, among the set of days selected for this randomization, within participant (specifically, within team) the set of days in which each participant would

receive the high level vs the low level of income top-up. Stratifying by team/income top-up status, we ensured that all participants received over the study period the *Supervisor Not Notified* treatment the same number of times. This ensures that the randomization did not create imbalance between participants through randomization in their expected benefits arising from informing the supervisor.

We now analyze the two necessary and sufficient conditions for randomization of the notified supervisor treatment to be ethical when policy equipoise is violated: scarcity of the treatment, and asymmetric legal or moral claims to receiving the treatment. Note that those apply to within individual across day allocations, since the roll-out aspect of this design ensures that the expected discounted benefits or costs are equal across participants, thus policy equipoise is not violated across participants.

No scarcity. There was no scarcity. Not informing the supervisor was not costly. However, the treatment arm preserved the same amount of material benefits allocated to the agents. While we did not decrease the benefits through the informed supervisor, *a priori* (we thought at the start of the study) it could have decreased the net benefit to the agents. Yet the hypothesized decrease did not arise from a destruction of resources, but from the expectation that there could be redistribution of the income top-up to the supervisor. Thus, because the loss of benefits to the agents and the gain in benefits by the supervisor are zero gain, as they arise from redistribution, randomization of "*notify supervisor*" does not violate scarcity of the income top-up distributed, from the perspective of the whole set of participants. The supervisors are participants and therefore, from the perspective of study participants, there would be scarcity.

If one limits the participants considered in the analysis of the benefits and costs of the treatment to the teams of agents as the only participants, then, the notify supervisor treatment would amount to a violation of the principle of scarcity—as we could, at no cost, increase the benefits of the agents by not notifying the supervisor.

There are two reasons why violation of scarcity is potentially not problematic in the notify supervisor treatment. First, it is a variation of another treatment, the income top-up, which we are delivering as a strict benefit to the agents ourselves. Rather than creating harm to subjects, over their welfare in the absence of the experiment, the notify supervisor sub-treatment, based on our ex-ante expectations, would have only amounted

to a variation in the level of positive benefits accruing to the agents as a result of our intervention. This is likely to appease some ethical concerns arising from violation of scarcity within subject across days. Second, within a few days of implementation, this dilemma disappeared as the research team learnt that supervisors would always find out about the income top-up intervention. Thus, the violation of scarcity concerns the first two or three days of the study if one considers the agents as the only participants, it does not involve withholding treatment to subjects overall as each subject was assigned to the same number of notify supervisor treatments, and it amounted, during those days, to a variation in the degree of benefit provided by our income top-up intervention.

Symmetric claims to the treatment. Since, a priori, we had no reason to expect that the supervisors were less entitled to receiving a share of their agent's income top-up, this randomization also did not reallocate benefits away from individuals deemed to have a higher moral or legal claim over the income top-up. In fact, the opposite could be true: this is a system in which supervisors may have legitimate claims over all sources of unofficial income of their staff, whether as part of the existing agreements, or for redistribution to other teams, or to maintain a given level of motivation. Lacking any moral prior belief concerning whether the supervisor or the agents had superior claims to the income top-up treatment that we delivered to the agents, we allowed randomization to be the mechanism by which given days were allocated to *Supervisor Notified* vs *Supervisor Not Notified*. If the specific shares allocated between the agents and the supervisor reflect the system's underlying moral claims to benefits, then our intervention to notify supervisor would amount to ensuring that those moral claims are respected. Since we learnt after two days of study that this treatment was likely going to be inconsequential, the discussion on asymmetric moral claims has also limited relevance.

C. Role of Researchers With Respect to Implementation

The project was implemented by a research team consisting of networks of reserachers from the country and Kinshasa-based field researchers. The researchers had direct decision making power over whether and how to implement the randomly assigned interventions. Thus, the researchers can be considered "active."

The disclosure given to participants, and the informed consent process for participation in each of the interventions is described in the IRB protocols, which were approved by the following three institutions: IRB approval for the activities of data collection and the experimental interventions was obtained from the University of Antwerp Ethical Advice Commission Social and Human Sciences SHW_15_15, 05 May 2015; Harvard University, Committee on the Use of Human Subjects, Protocol IRB15-1973 (May 22nd 2015) and MOD15-1973-01 (June 5th 2015); University of Berkeley, Committee for Protection of Human Subjects, June 30th 2015, Protocol 2015-06-7686.

In addition to the consent information in those research protocols, there are two important dimensions of consent process for participation to discuss.

For the income top-up treatment, all study participants were informed by their battalion's leadership in a battalion meeting prior to the study, after we had sought consent by the battalion leadership. On a Sunday (in which agents do not work and hence the opportunity cost to public service is zero), the Colonel of the battalion organized a meeting with all the agents. A Kinshasa-based researcher took part of the meeting. Many of the officers had seen the student before, as part of his doctorate. Perks from office are a significant share of state officials' income. In this setting, the largest fraction of Congolese civil servants' income, at various levels of the hierarchy, is made through a wide range of official and unofficial top-ups (Titeca and De Herdt, 2011a).

This presentation ensured that agents were free to participate in the income top-up intervention, and that there were no expectations attached to the decision of accepting to participate. Those were voluntary benefits that all agents were eager to receive.

The details of the information provided in that meeting were as follows. In the meeting, all agents were informed that they would receive, on average, the amount they make in one day unofficially, albeit it would only be distributed in a bit less than half of the study days, staggered in a way with no pattern that they could yet be given. All agents were also free to refuse receiving the income top-up treatment. After introducing the income top-up, the Colonel introduced the two individuals who would deliver the income, the *street-level assistants*.

After the study, we noted that all agents we interviewed in an exit and a follow-up survey expressed enthusiasm about the support they received.

D. Potential Harms From The Interventions

For all interventions, it was reasonable to assume at the time of the study that participation in the study, or in the treatments, would have no effect on future benefits. This problem may arise in contexts when NGO's or the government are deciding which village or community to target for reforms. Here we are talking about one of the two battalions of the city of Kinshasa, and reforms cannot discriminate between battalions – it would also be politically untenable. Any future police reform was thus known to affect the entire police agency of the city of Kinshasa. It was known to be implausible that future reforms would discriminate by whether participants took part in our interventions. Furthermore, we included all of the staff of one battalion, hence further reducing the risk that any authority or donor can decide to withdraw support to the police staff on the basis that they belong to one of two battalions of the city that took part of a study.

The remainder of the section focuses on the *direct* potential harms (that is, not arising from possible loss of future policy benefits) to participants from the interventions.

D1. The Income Top-Up Treatment

On some days, the agents received income top-up, in cash, similar in magnitude to what they expected to generate that day collecting bribes - an average of 17 USD per day per agent. The amount is equivalent to what they would otherwise normally generate in a given day from unofficial revenue.

We discuss jointly the risks associated to the income top-up treatment as well as assignment to notified supervisor vs not notified supervisor. In what follows, we analyze those risks and their mitigation separately for each of the following stakeholder/beneficiaries of our interventions: agents receiving the income top-up, agents not receiving the income top-up, drivers, and deontological issues arising from our treatments.

D1a. Treated Agents

Possible Harms

Harm 1. The transfers of cash may create re-distributive pressures coming from the police hierarchy. The income top-up was approved by the highest authority of the police

battalion, hence there was no risk that the battalion leadership would sanction the agents for receiving income. However, the income top-up treatment was presented as a salary top-up, hence it would be reasonable to expect that the treatment would have generated the interest of the hierarchy to request a share of it from the agents. There are two aspects to consider concerning the welfare of the agents in relation to the hierarchy.

First, a share of the income may have to be transferred to individuals higher up. This alone does not constitute harm for the police agents, since they nonetheless would be able to keep a residual income that they would otherwise not have received without the intervention, amounting to a net benefit. Consistent with this conjecture, we indeed find that the supervisors are able to "tax" 30% of the income top-up, suggesting that the agents kept a significant share of the income and thus, benefited on net.

Second, the process of bargaining that could be triggered when higher level officers attempt to extract a share of the surplus could reasonably be suspected of harming the agents, for instance, if it were violent. Yet, 6 months of preparatory fieldwork showed that the risk would be absent. Specifically, we examined this question and found that the bargaining process is relatively innocuous, with supervisors communicating to the Grade d'Elite the cut that they will take and the Grade collecting the payments. Based on the information available to use after reasonable effort prior to the study, the probability of this harm could thus be considered small *ex-ante*. *Ex-post*, it was shown to be absent.

Harm 2. The distribution may lead to re-distributive pressures coming from other peers in the experiment who were not selected to receive the treatment that day, or who were not part of the study. A *priori*, the research team did not know whether this would be a concern. After 6 months of preparatory fieldwork, we found that,

a. Within-teams, there would be jealousies and resentment. For security reasons, we implemented the experiment at the level of teams rather than individuals.

b. Across-teams, were any re-distributive pressure to arise, these would arise as agents complaining to the police station supervisor for obtaining a cut of the transfer from their peers. Our preparatory fieldwork indicated that, to the best of everyone's knowledge, re-distributive demands across teams would not translate into reduced safety of the participants. *Ex-post*, violent pressures for redistribution were absent, even as we find evidence in support that re-distributive concerns were present.

Harm 3. Another harm would be that the income top-up may promote the consumption of temptation goods leading to sub-optimal choices by the agents. This would be especially problematic if the agents are a vulnerable population who already suffers from addiction, in which case the income top-up benefits could be shadowed by promoting addiction of substances and leading to choices that jeopardize their career outcomes. We believe that this concern is not warranted and that it also overrules the agents' own agency. While beer consumption was mentioned by some officers as a stimulant used to motivate themselves in order to extort the drivers, we tracked beer consumption and found that a small amount of the income top-up was indeed used in beer consumption.

Strategies to Mitigate These Possible The Risks Associated to Those Harms

Cognizant of this being a reasonable risk, we took steps to mitigate the risk.

Mitigation Strategy 1: to reduce risk of pressures arising from peer re-distributive pressure, we intentionally randomized the allocation of the income at the level of the team cluster and stratified by team. The first aspect of this decision ensured that, in any given day, there was no inequality between any member of a given team. The second aspect of this decision ensured that, while the treatment created inequality between the teams for any given day, it preserved equality of the distribution of income between teams for the duration of the study.

Mitigation Strategy 2: we introduced another treatment arm where we made sure that the supervisors were not informed about the income treatment. While this proved to be an innocuous treatment, a *priori* it had the potential to reduce frictions.

Mitigation Strategy 3: we created an extremely tight monitoring structure to protect the welfare of the agents. We worked with a team of two people, the street-level assistants who, every day, checked in with the agents concerning the income top-up treatment. We hired an auditor who, every evening, checked in with the agents concerning the income top-up treatment, but also checked whether they received the income from the street-level assistants. We also organized three supervision meetings every day with the supervisors of each branch of the study. These meetings gave us up-to-date access to relevant information from and about the relevant actors participating in the study, such as the police officers. We also had 30 observers at the intersections who wrote in open

ended questions the properties of all interactions with the police agents, and reported to their supervisors. We also worked with individuals inside the police stations, from the police and from outside the police networks, who reported to supervisors that we worked with specifically for this purpose. Finally, one of the co-authors acted as coordinator for the study, having regular contact with the police station supervisors and police staff.

Mitigation Strategy 4: we created limited mitigation strategies to tackle the possibility that the agents may use the income for purposes contrary to their self-interest, such as getting drunk, endangering themselves, or making erratic choices leading to their dismissal. When we learnt about the role of beer, we began recording beer consumption by the agents. This allows us to document that indeed a small fraction of the income was used as beer. Overall, we recorded one instance of dismissal due to bad behavior in the period of our study, although the conditions for the dismissal were unrelated to beer consumption. To mitigate the possible effects on consumption during working hours, we delayed the hour at which the income top-up was given to later in the day. While this does not prevent that agents used the income for consumption of beer, it ensures that were this to occur, it reduces its interference with the functions of their office.

D1b. Agents in Control Days, and Police Station Supervisors

Possible Harms

Harm 1. It is possible that staff who was not assigned to the intervention (including supervisors), or simply who did not take part of the study, experience discomfort due to jealousy. At the start of the study, we had knowledge that non-treated individuals could experience discomfort due to the fact that they were not treated that day. While the likelihood of this harm was believed to be reasonably high, the level of the harm was reasonably low: we knew that these feelings would translate into demands for the supervisor to redistribute, and most importantly, all the participants could be treated in a roll-out design, ensuring that there were no imbalances in the total benefits they would receive over the period, hence this harm was deemed very low. The harm arising from jealousy of the other agents was deemed manageable with appropriate risk mitigation strategies we describe below. The harm arising from the supervisor's jealousy was deemed low because the supervisor was known to ask the agents for a cut.

Harm 2. It is also possible that receiving the cash leads the treated agents to change their behavior in the street, potentially harming the welfare of the supervisors if the supervisors' reputation hinges in part on the behavior of the agents. Indeed, consistent with this conjecture, we found in the first days of implementation that some supervisors complained to us about the income treatment decreasing the effort of agents in the street.

The supervisors particularly asked the research team whether it was possible to distribute the cash a little later in the day to mitigate this risk. Concretely, supervisors' reputation is in part tied to their ability to contain traffic especially when political authorities are passing through the intersections where the agents are deployed. In case of chaos during their transit, the authorities can report it and threaten the police hierarchy and at times leading to sanctions inside the police, at least according to the supervisors. At the start of the study, we did not anticipate that the welfare of supervisors could be adversely affected by the income treatment to their agents. Ex-post, we found that the cash treatment had a negligible effect on the agents' behavior.

Strategies to Mitigate These Possible The Risks Associated to Those Harms

Strategy 1. To reduce the risk of jealousies between the participants assigned to control in a given day and the rest, we intentionally randomized the allocation of the income at the level of the team cluster and stratified by team of agents. The first aspect of this decision ensured that, in any given day, there was no inequality between any member of a given team. The second aspect of this decision ensured that, while the treatment created inequality between the teams for any given day, it preserved equality of the distribution of income between teams for the duration of the study, as each team received the income top-up treatment the same number of times. This design reduced the risk of jealousy within teams, and between teams by ensuring the treatment has a correlation of 1 within team members, and that, overall, all teams receive the same expected value.

Strategy 2. Concerning the jealousy of staff that did not participate, we intentionally worked with one battalion, and attempted to cover the entirety of the staff in that battalion. It is more difficult that staff in the other battalion finds out about their income treatment, although it is not impossible, given that the battalions partition the city of Kinshasa geographically and that they are composed of different police networks.

Strategy 3. Concerning the impact of the income treatment on the street-level agent behavior and outcomes that could harm the supervisors' reputation, as soon as we learnt that this could be an issue, we negotiated a time of delivery with supervisors that was slightly later. We learnt about this only a few days after the start of our experiment. This strategy reduced the risk that the income top-up experiment could have any adverse effects on traffic jams, chaos and other outcomes that supervisors were concerned about.

D1c. Drivers

Possible Harms

It is possible that the income top-up leads the agents to distort their behavior in the street at the intersections they are deployed to, potentially harming the welfare of drivers. For instance, if they are income targeting, or if the income top-up generates a substantially large income effect, this could disincentivizes agents' effort towards tasks where they receive a monetary reward, such as bribes. This would be particularly important if agents receive bribes for regulating traffic jams, and stop doing so when they have more income. On the other hand, one of the main sources of driver harassment by the police agents is that they are in short of cash, on survival, hence the income top-up treatment could also notably have protected drivers from harassment.

Strategies to Mitigate Possible Harms

We did not at the outset have a strategy to mitigate this potential harm to drivers. However, when we learnt that it could potentially adversely affect traffic, we negotiated for later delivery hours with the supervisors, which we believe had a significant effect at mitigating this risk. We find that the effect of income top-up on traffic jams, accidents, and harassment, however, is not significant.

D1d. Violation of Deontological Principles

Possible Violation of Deontological Principles

While not having a measurable effect, the income top-up treatment could still have have been immoral if this would lead to violations of fundamental principles (a violation

of Kant's categorical imperative) or to systemic adverse consequences (a violation of Harsanyi's rule-utilitarian principle).

For instance, it is important to discuss whether disbursing income top-up to police agents that are part of a corrupt system violates a deontological principle. While not directly contributing to corruption, it is thus reasonable to ask: if many people who could would pay police agents, would this undermine the already limited ability of the system to provide public goods? Would it increase the scale of corruption?

An important aspect of this treatment is that income top-up was an *unconditional* transfer. No conditions were attached to receiving the income top-up, neither explicit nor subtle. The payment thus does not amount to a bribe nor has any quid-pro-quo. Had the expectation that the agents break the law been present in exchange for the payment, one should have had to discuss whether this constitutes a deontological principle violation. But, if everyone would make payments to agents with no conditions attached, agents would simply be richer. At worst this would generate an income effect large enough that they may no longer be tempted to engage in petty corruption. At best, this constitutes a transfer from rich countries to some of the poorest and most vulnerable segments of society in the DRC. The same reasoning applies to the morality of any unconditional cash transfer across the world.

Strategies to Mitigate Possible Violations of Deontological Principles

The following strategies allowed this concern to be mitigated.

Strategy 1. Our presentation and multiple reminders ensured that the income top-up experiment does not involve any *quid-pro quo.* Agents received the income with no strings attached, neither subtle nor not subtle. We made it clear in the introduction, for instance, that this would be an unconditional cash transfer and that there was nothing the agents were supposed to change in their behavior in office. While we asked some agents, in some days, to write down notes of their day in a diary, in a way that provided more justification for them receiving income, it was also made clear that the transfer involved no expectation of change in behavior, let alone of violating the law. Therefore, the income top-up was not a bribe, and did not amount to corruption.

Strategy 2. The intervention was introduced and explained by the police hierarchy as part of an academic study in collaboration with the city police reforms. One of the authors is a professor at a local university, who had been researching the police for the previous two years for his PhD research—at times accompanied by another author, who had equally conducted qualitative research on this issue among this target population. The present study was introduced, and explained extensively, during a 2-day workshop at the beginning of the implementation of the current study, by the Colonel in charge of the area. Although the purpose was explained extensively, it was often understood as being part of a government measure to try implementing a new policy. During this time period, a number of major police reforms took place. The majority of police officers understood the income shocks to be part of these reforms, hence not as a bribe.

The analysis in this section also applies to the randomization to whether we notified the supervisor. Furthermore, as the paper shows, we learnt early in the study phase that the randomization of whether to inform the supervisor would be innocuous because the supervisor always found out, thus the discussion in this section concerning the process of bargaining applies to both sub-treatment arms.

E. Financial and Reputational Conflicts of Interest

E1. Possible Reputational Conflicts of Interest

There is one obvious source of concern for possible conflict of interest risk in this study.

The publication of "negative" research results that would portray the supervisors as expropriating their agents with corrupt motives could, in theory, place the authors of the study as targets for retaliation. There is an abundant of literature documenting the corruption of the Congolese state, and our study focuses only on the allocation of income rather than on rule-breaking behavior, nuancing the risk.

For the Congolese researchers, retaliation could mean negative repercussions from the police (or other) authorities for publishing the study, and for having collaborated in whistleblowing a well-organized system that amounts to theft. Without specific whistle-blower protections one could be concerned that the expectation of possible retaliation

could have an impact on their neutrality, and thus, on creating a conflict of interest that would reduce the credibility of the research (for their own protection).

For foreign researchers, the risks can be similar if they are allowed into the country as part of their ongoing research projects. However, the most likely risk, one that has been observed in the past for other researchers studying sensitive questions, is that they are banned from the country and are no longer able to obtain a visa.

For two co-authors who were founding members of a non-profit research organization, retaliation could mean sanctions against the organization and its members, if the study is suspected being politically motivated. One of the co-authors works at the Catholic University of the Congo, and another has ongoing institutional collaborations in place.

F. Intellectual Freedom

This section is concerned with contractual limitations on the ability of the researchers to report the results of the study.

Who pays? The study was funded by the International Growth Center (IGC), the Private Enterprise Development in Low Income countries (PEDL), unrestricted faculty funding made available by the Haas School of Business at the University of California, Berkeley, and the Research Foundation - Flanders (FWO). IGC and PEDL were funded by the UK's FCDO (formerly known as DFIC). The researchers had unrestricted intellectual freedom to report the results of the study. All contracts with the funders and with the respective Universities protect academic independence.

Who authorizes? The battalion Colonel authorized the study as part of a longstanding relationship with one of the co-authors of the paper and did not expect results to be published in any particular tone.

G. Feedback to Participants or Communities

There are a number of stakeholders who can be considered when answering this question: the police agency staff, the general population (and in particular the drivers), the government, and the foreign aid agencies, who play a central role in channeling resources through the state and in supporting reforms. In fact, up to a few months before our

study, FCDO (formerly called DFID) was supporting Kinshasa's police agency reforms, but stopped because the general of the police agency was suspected of using violent methods against street-kids, among other issues.

Regarding DFID-Kinshasa, one of the co-authors presented the results of the study at DFID's Kinshasa headquarters in 2016 to an audience including Congolese as well as British staff, all specialized in governance in the DRC. This ensured that one of the key decision makers in/around the DRC's government, and one of their main international donors, received information that could be useful for policy.

Regarding the general public, the agency and the government, there is currently a plan to organize a public presentation at the the Catholic University of Kinshasa in 2023. This has not happened by 2022, because the results of the study have remained preliminary until this version was released. We plan to invite the police agency and the government.

H. Foreseeable Misuse of Research Results

First, international donors could decide to withhold aid to the Congolese police force, given the practices documented in this paper. This would be quite severe for a country partly dependent on foreign aid. However, this decision is quite unlikely. The contribution of this study is foremost academic, and to offer avenues for better influencing incentives of actors in the system.

Second, the article could be used by Congolese political leaders to sanction the officials involved in this study. However, the authors have taken various measures to protect the identity of the actors involved: these are completely de-identified. Furthermore, the government has been replaced since the study was implemented in 2015, with the associated change in personnel thus the risk of retaliation is further diminished.

Overall, given that the most pessimistic interpretation of this study has already been made public by The Economist (Acland, 2018) and by a companion study (Sanchez de la Sierra, Titeca, Xie, Nkuku and Lameke, 2022) and had no negative consequence as expected, we are confident that this article will only nuance the functioning of the system.

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