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Don't shoot the messenger – electricity theft and trust in Karachi

This policy brief is based on a project funded by the International Growth Centre (IGC) Pakistan. The principal investigator on the project is Erum Haider. Zara Salman, Senior Research Associate at Consortium for Development Policy Research (CDPR), has prepared this brief by editing the academic paper from this project.

Provision of electricity is a basic service delivery demanded by citizens that the state is struggling to meet. Supply constraints exist all over Pakistan. In a city like Karachi, approximately 2,475 megawatts (MW) of electricity flows into the industrial town every hour. The supply is made up primarily of thermal and nuclear Independent Power Providers (IPPs) outside the city. However, this is not enough for the city. Hence, the distribution and revenue collection organization, the Karachi Electric Supply Corporation (KESC), copes by instituting neighbourhood-level “load-shedding”: periods of power outages.

This study supported by IGC, represents the first attempt to measure consumption and expenditure among domestic consumers in Karachi, Pakistan and understand load-shedding patterns. Using a survey carried out with domestic users, the study first measures households' consumption and spending on energy. The second part measures satisfaction, fairness and trust: how do people relate to the state and each other in the context of privatized public goods?

Details of the survey

In brief

- IGC researcher Erum Haider demonstrates using this survey that individuals in high load-shedding areas generally have lower levels of trust in institutions, and are less likely to participate in civic activities such as voting.
- The two key concerns highlighted in the service delivery of electricity were power outages (“load-shedding”) and the cost of electricity (“over-billing”).
- Individuals have lower levels of trust in political governments, and generally trust elected representatives less, as opposed to private utility companies.
- This survey implies that a virtuous cycle of trust between private institutions and consumers can create efficiencies in the consumption of scarce resources.

The survey was conducted in Karachi between June and August 2018 on issues related to electricity provision. Over 1000 participants across three districts in the city were selected using stratified

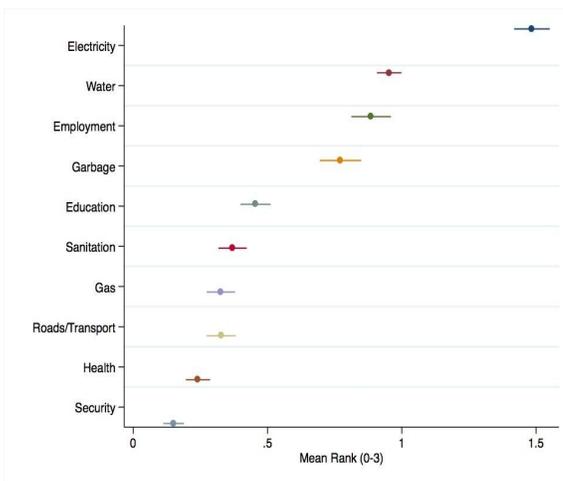
random sampling. Moreover, for each district, 5-8 Union Councils were selected based on district population and within each Union Council, 2-3 points were selected from a dataset of over 25,000 electricity transformer geo-locations. This presented two advantages:

1. It enabled unique information on service delivery at each data point.

- It enabled the inclusion of only those households connected on the electricity grid

The study highlights the critical issue of load-shedding. In the survey, citizens of Karachi ranked electricity as the highest priority in service delivery provision. This was even higher than water, of which Karachi faces major shortfall (Figure 1). Over 50% of the respondents, ranked electricity as a major priority for improvement. The two key concerns highlighted in the service delivery of electricity were power outages (“load-shedding”) and the cost of electricity (“over-billing”).

Figure 1: Ranked preferences for service delivery



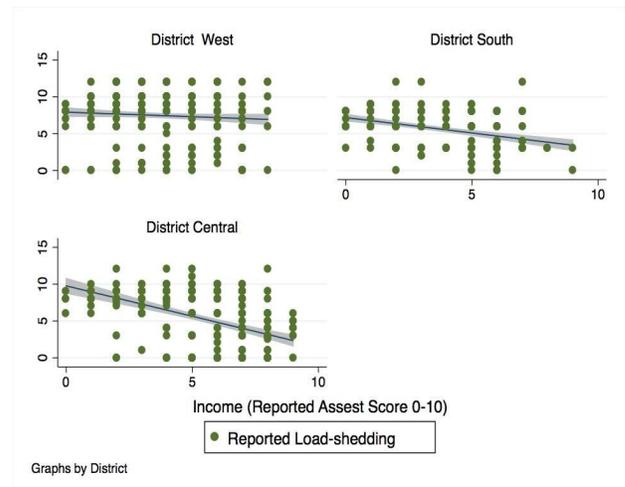
How well does income predict reported and actual load-shedding?

The results of the survey vary depending on where an individual lived in Karachi. In District Central, individuals at higher levels of income (measured using an asset score¹) report less than five hours of load-shedding during the summer (Figure 2). This suggests that the quality of service delivery is linked to individuals’ *ability* to pay – higher income households pay their bills, and therefore are not burdened by load-shedding by the utility company. In District South, a similar pattern holds, although it is less strongly correlated. In District West, the line is nearly flat: high-income households report similar rates of load-shedding as their low-income peers.

¹ Such asset scores are common where reliable income information is not available to respondents, particularly in informal and seasonal labour economies (Besley et al. 2005).

Since all districts report paying bills with the same frequency, it is puzzling to see this variance.

Figure 2: Income and reported load-shedding



The author investigated this issue by speaking to individuals in these districts. It was found that many medium income households found themselves stuck in bad neighbourhoods, where they were one of the few people who paid bills on time. If the aggregate collection from a building is still too low to justify the utility company decreasing hours of load-shedding, there is little choice as an individual. One can continue to pay in spite of bad service, stop paying at all, or move out of the neighbourhood.

Measuring trust in institutions in the context of electricity

The study further examined how load-shedding affects more subtle measures of governance and conflict, such as trust. The general assumption is that more information makes markets work better. Therefore, information on billing and the duration of load shedding can provide individuals incentives to act better. However, in some situations, information on poor behaviour can lead to mistrust, of the institution that delivers the message. The survey demonstrated that individuals in high load-shedding areas generally have lower levels of trust in institutions, and are less likely to participate in civic activities such as voting.

The survey team further conducted an “endorsement”

experiment². Individuals were informed that load-shedding was linked to theft, attributing the information to either the political government, the private utility company, or to generic popular opinion (placebo). It was found that individuals have lower levels of trust in political governments, and generally trust elected representatives less. Somewhat surprisingly, they do not trust the private utility firm any more than the political representatives – possibly because they blame them for high load-shedding and costly monthly bills. Finally, and most importantly, when told that load-shedding in their area was linked to theft in the neighbourhood, they were less likely to show trust in their neighbours, regardless of whether the message was attributed to the political government or the private firm. The knowledge on the cause of load-shedding may motivate citizens to act collectively. This implies that a virtuous cycle of trust between private institutions and consumers can create efficiencies in the consumption of scarce resources. On the other hand, a cycle of mistrust can create uncertainty that spills over into the political sphere; that is citizens tend to blame politicians for poor service delivery.

It can therefore be expected that reducing theft and improving trust in service delivery institutions to be an uphill battle in Karachi. Bad neighbourhoods (where electricity bills are not paid) play a key role in widespread load-shedding regardless of the income levels of the households. Moreover, this poor electricity service provision leads to lower trust in institutions.

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² The survey experiment adapts Lyall et. al (2013) and Fair et. al (2013), in order to examine the effect of statements on service delivery and theft by private service delivery providers, and local politicians.
