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Electricity privatization and political participation: Lessons from Karachi, Pakistan

About the project

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Impact

This research was presented in various forums such as the World Bank/ APSA Workshop on South Asia in August 2019 and at the American Political Science Association Annual Conference, Workshop on Sustainable Cities in September 2020.

This policy brief is based on research conducted by Erum Haider (College of Wooster; Georgetown University IRB # 2017-1503). It has been compiled by Erum Haider and Bakhtiar Iqbal (CDPR).

In brief

- The energy crisis in Karachi, Pakistan's largest city and industrial hub, needs to be understood in the context of privatization. Despite improved bill collection, privatization has also stratified the city across groups who can afford to pay for electricity and those who cannot.
- Low national trust in elected governments has translated as Karachi's citizens having little faith in the provision of service delivery in the city. Additionally, the persistent narrative of outages being linked to theft has further reduced trust in neighbors, reducing citizens' collective bargaining power for holding the state or its private subsidiaries accountable for poor service provision.
- This study shows that utility companies in the developing world cannot perfectly differentiate between payers and non-payers, resulting in widespread collective punishment – even after the utility has been privatized.

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Introduction

Pakistan's economic crisis is directly and inextricably linked to its dependence on costly energy generation and transmission, and low payments. Chronic circular debt has led to economic slowdowns and repeated borrowing from lenders, which exacerbates cutting back on social safety nets for the poor. For years, Pakistan's struggling energy sector has been at the center of the country's inability to generate growth, employment or improve its export sector. At the end of 2019, Pakistan's circular debt for energy stood at \$11 billion, and the new Finance Minister pushed through legislation to recover this debt, primarily through increasing utility tariffs.¹

Karachi is plagued by failing governance, low quality service delivery, and crippling electricity outages, in spite of being the country's largest city and an industrial hub. In July 2019, just weeks after the IMF bailout package announcement, Karachi witnessed monsoon-related flooding that wiped out electricity sub-stations, shutting down power to over 70% of the city.² In 2020, after large areas in Karachi were subject to over 72 hours of electricity outage, widespread protests broke out in high and low income neighborhoods in the city. The government's ability to balance social safety nets with macroeconomic adjustment will be crucial to citizen satisfaction with government performance. The city's service delivery remains in a low-provision, low-accountability equilibrium.

Methodology

This study uses a dataset of 25,000 geo-located step down transformers, which provide the final reading on electricity consumption before it goes to individual metered and un-metered homes, shops and industrial units. The study also uses survey data from an original survey conducted across 1019 households in three of Karachi's six districts between June 2018 and April 2019. The survey includes questions on state and private service delivery consumption for water, electricity and other services. Electoral data from the 2015 Local Government Elections, data from the last complete census to take place in Pakistan in 1998, and results from the most recent 2018 General Elections were also used. Finally, the study utilizes qualitative data from over 12 months of fieldwork in Karachi, Pakistan, and draws on in-depth interviews with politicians, utility company employees, traders, industrialists and domestic consumers.

Trust, Democracy, and Service Delivery

Political trust has long-standing impacts on political outcomes, particularly the ability of citizens to work together, and to work with state institutions (Ostrom 1999, Putnam 2000). Citizens who trust that the elected government represents their interests are more likely to participate in elections and take an interest in politics (Putnam 1994, Diamond 1994). Democratic society is expected to be more trusting and participative, with norms of reciprocity and non-nativist, "civil" ties enabling the mobilization of communities (Almond and Verba 1963). Even under non-democratic rule, building trust is a key component of gaining legitimacy.

Pakistan, like many countries in the developing world, is plagued by low levels of trust in government overall. Previous studies have established the link between low levels of trust and weak institutional development, particularly in the Pakistani context (Tudor 2013, Siddiqui 2018). However, the root causes of low trust are not well understood. This study suggests one important avenue of building trust – service delivery.

Electricity Provision in Karachi

Across the decades, the service delivery challenge in Karachi has remained largely the same – the government is in a perpetual state of catch up, eventually meeting consumer demands by allowing for a patchwork of public, private and semi-privatized service delivery channels. The provision of electricity is no exception. The city consumes approximately 2,475 megawatts (MW) of electricity every hour. In 1998, the last publicly available census reports over 70% electrification in the most densely populated parts of the city. Electricity generation relies primarily of thermal and nuclear Independent Power Providers (IPPs) outside the city.

Distribution and bill collection were originally taken up by the Karachi Electric Supply Corporation, a colonial-era organization that parallels other distribution companies ("Discos") in other major cities. In Karachi, the demand for electricity considerably outstrips supply, and the Disco copes by instituting neighborhood-level "loadshedding": periods of planned power outages, particularly during hot summer months. In many parts of the world, private and state utility companies regularly rely on these rolling blackouts in peak months.

Karachi's utility company imposes recovery-based outages, prioritizing provision in 'low loss' areas where utility bills are recovered, over

¹ Kiani, Khaleeq. 6th January 2020. "Consumers to pay for power losses under fresh proposal." Dawn Online. <https://bit.ly/3mpuzyA>

² Samaa <https://www.samaa.tv/news/2019/07/power-breakdown-plunges-karachi-into-darkness-after-rain/>

Higher loss areas where consumption outstrips Bill recovery. In order to more efficiently differentiate between payers and non-payers, the city's utility company has invested considerable resources in locating and geo-tagging over 30,000 step-down transformers that provide electricity to the city's residents.

The company prioritizes neighborhoods where it believes it recovers all of its bill payments, and targets outages to those neighborhoods where bill collections are low. 'Very high' outage areas experience 8-10 hours of outage throughout the year, and 'low' outage areas are virtually outage-free (Figure 1). In reality, because the utility company does not have the infrastructural capacity to target power outages to individual consumers, many of whom live in densely crowded areas, it subjects catchment areas consisting of several dozen step-down transformers, and hundreds of houses and shops connected to each of them, to scheduled outages.

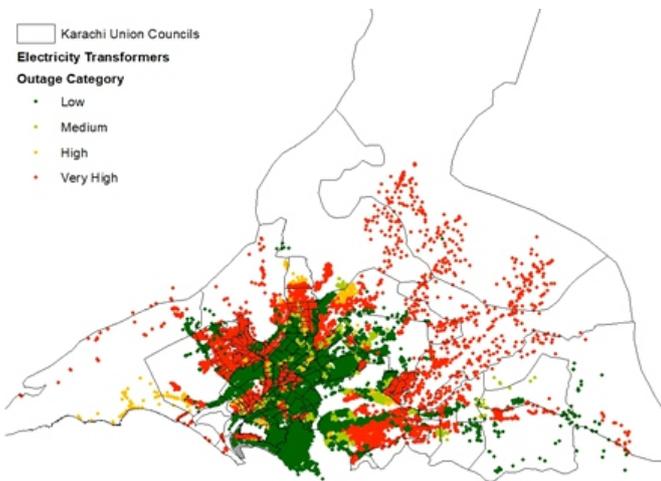


Figure 1: Distribution of low and high scheduled outage for electricity in Karachi

The privatization of electricity has improved bill collections for the utility. Before privatization in 2005, the National Electric Power Regulatory Authority (NEPRA) reported Karachi's electricity billing recovery at 34%. In 2017, it stood at 82% (Abbasi 2011, NEPRA 2017). In the survey conducted for this study, individuals reported paying bills in full at least 65% of the time. However, citizens also report that the privatized utility, K-Electric, is not holding up its end of the contract. When asked to list three top policy concerns, electricity was by far the most widely reported (Figure 2).

The stratification created by the utility company is a result of its desire to rationalize consumption in the city, and maximize its revenue. Initial efforts to differentiate between high collection and low collection areas have resulted in better service delivery in some neighborhoods and have improved revenue collections. Ultimately, however, differentiating

between payers and non-payers is a costly process.

The research done for this study indicates that Karachi's private electricity firm places the burden of information collection on citizens - either to report theft, or to assert themselves as 'good' consumers. Many middle-income households may therefore get "stuck" in low-quality service neighborhoods. Households may be individually capable of paying for goods and services, but lack collective power to enforce compliance among their neighbors, or to bargain better provision with the utility company, or to move to a better-provisioned location. In the survey, individuals report paying up to 12% of their monthly income in electricity bills, suggesting that electricity is expensive, but that consumers may not be getting what they pay for. This has serious implications for citizens' ability to improve their standard of living.

Real estate development in the city has soared to accommodate population demands without adequate planning for the provision of utilities (Hasan 2015). In one particularly alarming report by the Asian Development Bank in 2001, real estate developers, in collusion with local politicians, underestimated the energy needs of developments to avoid surcharges related to the provision of an electricity substation. Instead of a network of high-voltage, energy efficient sub-stations, the city added low-voltage step-down transformers, often connecting inhabitants that were miles apart by low-voltage overhead cables, prone to heat and energy losses. The high transmission costs are invariably passed down to Karachi's consumers, and result in overloading in widespread breakdowns of the kind witnessed in 2018, 2019 and 2020.

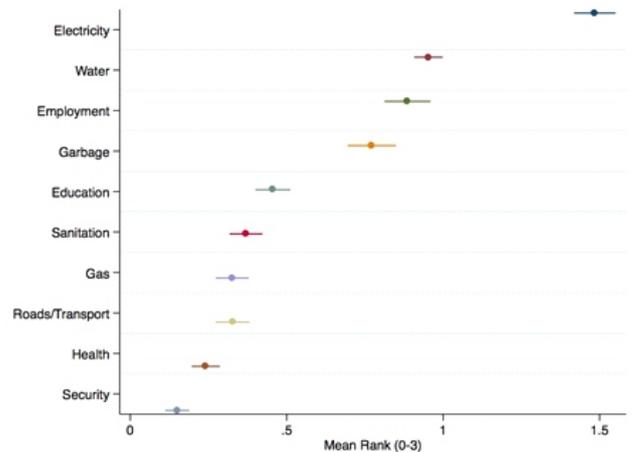


Figure 2: Ranked priorities for residents in Karachi, 2018

It is no surprise, therefore, that individuals tend to have very low trust in the state's ability to deliver services. As noted before, many individuals have benefited from being in "high priority," low outage areas. Private sector provision has therefore improved service

delivery to large parts of the city. Table 1 shows that 67% of high income individuals either agreed or strongly agreed that the state was not capable of reducing poverty, and were in favor of “free market” approaches to welfare. Middle income individuals were also more likely to agree with these statements, and express disappointment with state attempts to

intervene. Unsurprisingly, lower income individuals tend to assert a role for the state, with over 53% strongly disagreeing or disagreeing with the statement that the state should not have a role. At least 39% of the low income group also expressed skepticism about the state's role.

Table 1: Trust in State v the “free market,” by income group

405. Some people think that the state cannot do anything to reduce differences between the rich and the poor, and the free market is the best mechanism for reducing poverty. Others think that the state should intervene to reduce poverty. Which statement is closer to your opinion?	Low income	Middle income	High income	Total
The state cannot do anything to reduce differences between rich and poor. The free market is the best mechanism for reducing poverty.– Strongly Agree	20 17.39%	244 31.24%	46 37.4%	310 30.42%
The state cannot do anything to reduce differences between rich and poor. The free market is the best mechanism for reducing poverty.– Somewhat Agree	26 22.61%	222 28.43%	37 30.08%	285 27.97%
Neither Agree nor Disagree	7 6.09%	30 3.84%	5 4.07%	42 4.12%
The state should reduce differences between rich and poor. Somewhat Agree	16 13.91%	173 22.15%	24 19.51%	213 20.9%
The state should reduce differences between rich and poor. Strongly Agree	46 40%	100 12.8%	10 8.13%	156 15.31%
No Response	0 0%	12 1.54%	1 0.81%	13 1.28%
Total	115 100%	781 100%	123 100%	1,019 100%

Results from 2018 survey in Karachi

The privatization of electricity services in Karachi has resulted in individuals receiving regular electricity bills. The cost of electricity is comparable, if not somewhat than higher to other cities in the region. Notably, Karachi is an expensive city for middle-income consumers. Bills average at about PKR 4000 (approx. USD 25) a month. However, challenges with provision remain: electricity outages can last up to six hours a day, even where payment were relatively regular.

On average, individuals report receiving an “unfairly” high bill – one that doesn't match their consumption – twice a year. K-Electric attributes high loadshedding and unfair bills to theft by neighbors, or pirated connections in the neighborhood. K-Electric engaged in an extensive campaign to remove pirated connections after 2008, but insists that these connections exist. Sometimes, individuals in low-provision neighborhoods resort to pirated connections as a “backup,” because of prolonged outages – a perverse but predictable outcome of the lack of trust between consumers and the private utility firm.

³ Adapted from Feirehard et al., 2018

Individuals report skipping or partially pay their bills, in months where the bill is unexpectedly high, or incomes fall short. In such instance, the unpaid portion of the bill counts as “arrears” and compounds with fees and fines. Over months of fieldwork in Karachi, it was frequent to meet low-income individuals with backlogs of over Rs. 80,000. They were told by K-Electric that either a previous tenant at their residence wasn't paying their bills, or that they hadn't paid their bills. Consumers report that the reasons given are often vague and dissatisfactory, and that the utility company often treats low-income individuals poorly.

Low- and middle-income citizens have few channels of grievance in Karachi. In particular, individuals reported not taking their grievances to political party leaders. A group of women in Karachi's District South pointed at the incumbent party PTI's neighborhood office across from a bill collection camp. “The MNA from here hasn't shown up once to help us resolve these issues.” Similarly, a group of voters in Korangi suggested that while they looked to the MQM and PPP to provide them with water and help with sewage issues, they knew that the parties were unlikely to be able to help with electricity. “It's privatized now, what can (the parties) do?” (Figure 3)

to skip their bills in certain months, or resort to stealing electricity. There is also a higher likelihood of the electricity company and law enforcement agencies being unable or unwilling to “sweep” the area of pirated connections.

Policy Implications

These findings have three major policy contributions. First, that in order to fully understand the seemingly paradoxical mistrust of relatively prosperous urban middle classes in the developing world, it is essential to fully appreciate the impact of highly stratified service delivery systems. Mistrust of the state and institutions is typically associated with poverty and lack of education. This study finds that everyday services such as electricity, water and garbage collection can foster strong feelings of ownership in the city and trust in electoral process, or not.

Second, this study shows that in Pakistan's most prosperous city, households find themselves “stuck” in low-provision, under-served neighborhoods. It suggests that this leads to long-term exit from participatory process, such as neighborhood committees, town halls and local organizations.

Finally, it proposes empowering elected and participatory institutions, such as local government, to enforce accountability and responsiveness by the state and institutions. Research-based urban planning should include urban planners, social scientists, environmental and climate change experts, and community organizers.

Pakistan is plagued by weak regulatory frameworks, rapid urbanization, and weak social protection mechanisms. Privatization alone will not overcome these challenges, or provide equitable and sustainable distribution of resources to citizens. Policymakers should take note of the lessons learnt from Karachi when implementing reforms in other Discos in the country. We should be particularly cautious as to the long-term consequences of creating economically unequal cities, and politically atomized citizens.

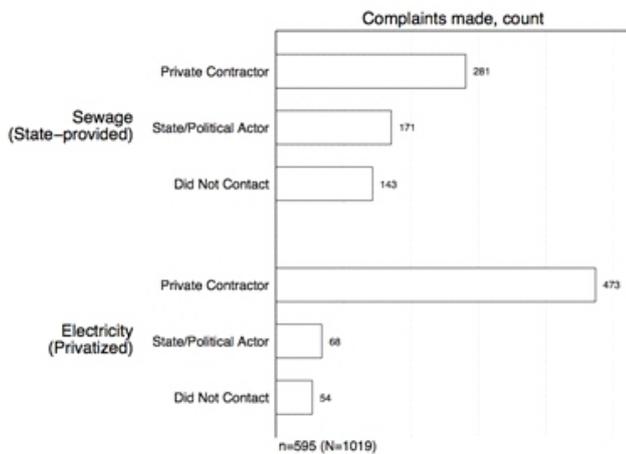


Figure 3: Complaints made for public and privatized services

These findings are almost certainly related to the quality of service delivery individuals have come to anticipate in high, low and medium income areas. Low-income neighborhoods are much more likely to be subject to outages, given that a larger number of people are likely