Religious Cycles of Government Responsiveness: Why Governments Distribute in Ramadan

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Abstract

Why are governments in Muslim countries more distributive and responsive in the Islamic season Ramadan? I argue that incumbents distribute in Ramadan to address political threats to their survival by coopting areas where their political support is weak. Distribution in Ramadan is a religiously salient issue and signals the government's capacity and goodness, which raises its political returns from targeting discontent voters. I test this argument on Egypt by employing an original municipality-level dataset of government-reported provision of economic benefits. The findings show that the government reports more economic distribution in places where political threats are higher: (1) electoral support for the incumbent is low, (2) socioeconomic development is high, (3) the threat of collective action is credible, and (4) citizens' exposure to unpopular economic policies is high. Using survey data, I also find that distribution in Ramadan translates into reputational gains for the government, particularly among its most likely opponents.

1   Introduction

When do governments respond to citizens' economic insecurity and expand their distributive policies? Electoral pressures (Gonzalez, 2002, Pepinsky, 2007, Blaydes, 2010) and collective action threats (Klomp and de Haan, 2013, Cleary, 2007, Brownlee, Masoud and Reynolds, 2013) have been cited as two explanations of government distribution and responsiveness, even in non-democracies. Meanwhile, religion has been argued to help governments in religious societies evade their economic responsibilities, particularly towards the most vulnerable. Political elites might exploit religious networks to evade accountability (Corstrange, 2016, Kalin and Siddiqui, 2016, Wilkinson, 2006). Parties can divert voters away from their economic demands by focusing on religiously salient social issues (De La O and Rodden, 2008). And, governments in religious societies could limit their support to economically vulnerable groups by relying on religious charities as substitutes (Scheve and Stasavage, 2006, Chaudhary and Rubin, 2016).

This paper adopts a different view of the religious environment as a time-variant structural factor that shapes the timing of government responsiveness to economic demands and its returns from economic distribution, in interaction with existing electoral and non-electoral threats. This perspective is motivated by an empirical observation. In Muslim majority countries, incumbents time their pro-poor policies strategically to signal their support to economically vulnerable groups around the religious season of Ramadan, the ninth month of the Islamic calendar, known as *the month of charity.* I document this pattern in 23 Muslim majority countries. This observation raises questions on *the conditions under which religious seasons incentivize government responsiveness to economic demands.*

To answer these questions, this paper presents an in-depth study of Egypt between 2014 and 2020. Egypt is the sixth most populous Muslim country and the most populous in the Arab World. It is also a context in which government responsiveness to Ramadan's charitable message is strongly pronounced, despite the country's autocratic politics and the incumbent's anti-Islamist stance. The government expands its provision of in-kind transfers and subsidies during the season, but with considerable variation across subnational units. This renders it a convenient case to understand the logic behind government responsiveness to economic insecurity in

Ramadan.

My argument is that government distribution in Ramadan aims at building political support and insuring against short-term political threats by coopting more disenchanted constituencies. Ramadan introduces structural changes into the religious environment by heightening the religious salience of distributive issues, linking distributive actions to charitable norms, and increasing the political costs of non-responsiveness to the economic demands of vulnerable groups. These changes incentivize the incumbent to distribute in Ramadan to signal its competency and religiosity and contain short-term political pressures arising during the season. Since the reputational and political returns of these distributive interventions would be higher where political threats and the incumbent's popularity deficit are severer, distribution in Ramadan would be biased towards the incumbent's non-core supporters and potential opponents.

I test this argument using an original dataset of publicly reported daily distributive campaigns in Egyptian municipalities. Distributive campaigns are short campaigns, lasting for one or few days, that provide free or heavily subsidized products to the public. The deployment of these campaigns has been an important and highly visible strategy to respond to citizens' economic concerns. Due to their flexibility, they provide a good measure of short-term fluctuations in government distribution. To construct this dataset, I collected reports by Egyptian municipalities and governorates on the daily operations of these campaigns from their official Facebook pages over the period of the study, before transforming these reports into daily counts of distributive campaigns across municipalities.

The findings confirm that government-reported distributive campaigns peak significantly in Ramadan and the month before. The only other time where they increase at a comparable rate is before elections. More importantly, economic distribution is higher in Ramadan's season in places where: (1) electoral support for the incumbent is weaker, (2) socioeconomic development is higher, and (3) the potential threat of collective action is higher. These are areas where political discontent and threats to the incumbent are higher. To corroborate the causal link between political threats and distribution in Ramadan, I also leverage spatial and temporal variation in exposure to government-orchestrated price shocks to identify the effect of unpopular

government policies on the level of distribution in Ramadan. I find that distribution in Ramadan is also higher in places more vulnerable to the government's unpopular economic policies, confirming that distribution in Ramadan is driven by the incumbent's popularity concerns. When tracing the implications of these distributive campaigns on voters' perceptions of the government using survey data, I find that Ramadan's distributive campaigns are associated with better views of the incumbent's institutions as trustworthy, uncorrupt, and less clientelistic, especially among its potential opponents. This suggests that government distribution in Ramadan has significant reputational and political returns and might contain discontent, which justifies the temporal and spatial allocation of distributive campaigns.

This paper makes several contributions. First, scholars of political accountability and government responsiveness have predominantly focused on the importance of democratic elections (For relevant reviews: Ashworth, 2012, Pande, 2011, Healy and Malhotra, 2013). This paper brings to attention the critical roles of religious norms and non-electoral mobilization as catalysts for good governance. In contexts where religiosity is prevalent and elections are less democratic, these factors might be equally important inputs into the political calculus of incumbents. This adds further insights to our growing understanding of government responsiveness in autocracies (Truex, 2016, Guo, 2009). Second, the findings speak to an important question in politics: who gets what. Research on clientelism has debated the question of who gets targeted with benefits in electoral seasons. My results show that governments might target different constituencies at different times. In other words, governments decide on who gets what and when. Third, most of the existing work on service-delivery in the Muslim World focuses on the role of Islamism, rather than Islam itself. The earlier is a political movement with religious bases and only followed by a subset of Muslims. The later binds all Muslims together with a similar set of norms, rituals, and beliefs. And, while the role of political Islam in service delivery is established in the literature (e.g. Masoud, 2014, Wickham, 2003, Hamzeh, 2001), little we know about how Islam affects service delivery by non-Islamist governments. The evidence presented here shows that salient Islamic norms create incentives for non-Islamist political actors to enhance their service delivery and tie their economic policy-making to the religious environment. This expands the debate on the relationship between Islam and governance. While Islamic institutions have been cited as a contributing factor to poor governance in Muslim countries (Kuran, 2010, Fish,

2002), my results suggest that Islamic norms can improve governance under certain conditions. Finally, the paper adds to a growing literature attempting at understanding the implications of religious seasons on political and economic outcomes: economic growth (Campante and Yanagizawa-Drott, 2015), investments (Al-Hajieh, Redhead and Rodgers, 2011), violence (Reese, Ruby and Pape, 2017), ethnic mobilization (Wilkinson, 2006) and individual attitudes (Clingingsmith, Khwaja and Kremer, 2009).

This paper is organized as follows. I first discuss the empirical motivation of the paper. In Section 3, I present the main argument. Then, I explain the data collection process and present the main empirical analysis in Section 4. Finally, I discuss the findings' relevance to academic and policy debates.

2 Government Responsiveness in Ramadan

Across the Muslim World, incumbent governments express high levels of attentiveness to citizens' welfare concerns as the Islamic season of Ramadan approaches. High-profile officials issue statements and visit domestic markets to assure citizens of their seriousness in supporting low-income groups. Governments expand their economic support to the poor during the season through targeted benefits and controlling the prices of basic commodities. Based on media reports in the period between 2015 and 2019, I find that at least 16 Muslim majority countries provided cash or in-kind transfers to low-income groups in Ramadan. This is often accompanied by increasing governmental supply of subsidized goods in markets and close monitoring of prices. Even governments on the fringe of economic crises might take costly measures to avoid burdening citizens. Despite their weak budgetary situation, Chad and Mali cut taxes on basic commodities to avoid price surges in Ramadan (Figaro, 2019, Commodafrica, 2015). Table 1 summarizes the main policy measures and governments' actions in Ramadan based on media reports from Muslim majority countries in the period 2015-2019.

Policy/Action	Country
Cash or In-Kind Transfers	Algeria, Egypt, Morocco, Tunisia, Mauritania, Jordan, Saudi Arabia, Bahrain, Oman, Iraq, Sudan, Indonesia, Iran, Malaysia, Nigeria, Turkey

Supply of Subsidized Goods	Egypt, Mauritania, Jordan, Sudan, Pakistan, Indonesia, Iran, Niger
Tax Cuts on Basic Commodities	Chad, Mali
Monitoring Markets and Price Controls	Morocco, Egypt, Tunisia, Algeria, Jordan, Indonesia, Iran, Malaysia, Bangladesh, Mali, Senegal
High Profile Field Visit	Morocco, Egypt, Tunisia, Sudan, Indonesia, Malaysia, Tajikistan
High Profile Announcement	Morocco, Algeria, Tunisia, Jordan, Saudi Arabia, Bahrain, Sudan, Pakistan, Iran, Senegal, Egypt

Table 1 – Government Responsiveness Around Ramadan

Egypt is one case where government responsiveness to citizens' economic concerns in Ramadan is strongly evident. As Ramadan approaches, the government expands its announcements of programs to support low-income groups in alignment with the charitable norms of the month. Puzzlingly, the specifics of Egypt's politics during the period of the study might lead us to predict weaker government responsiveness. Between 2014 and 2020, Egypt functioned as an autocracy with no serious political challengers to the incumbent's rule. The government adopted an anti-Islamist stance and shut down charities employed by the Islamist opposition for service provision in Ramadan. Yet, the incumbent still maintains a significant commitment to distribution in Ramadan. To provide a systematic overview of this, I examine daily media reports about government economic distribution in the four-year period between 2015 and 2018 published in the main state-run newspaper, *al-Ahram*. Reports by the state newspaper are not only telling about the extent of these distributive efforts but also demonstrate the government's interest in publicizing these policies. I define distributive reports as those covering governmental: expansion of subsidies on basic goods and services, in-kind transfers, cash transfers, and increases in social insurance benefits and salaries. Figure 1 plots the number of daily reports over time, with the blue shades referring to Ramadan and the preceding month. The plot reveals a systematic rise in media reports about government distribution around Ramadan with the religious season consistently coinciding with spikes in reporting.[1]

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[1]Obviously, Ramadan is not the only time when these reports increase. Media discussions of these topics could also surge in electoral seasons and in reaction to macroeconomic changes. Yet,

Figure 1: Daily Egyptian Media Reports on Government Distribution (2015-2018)
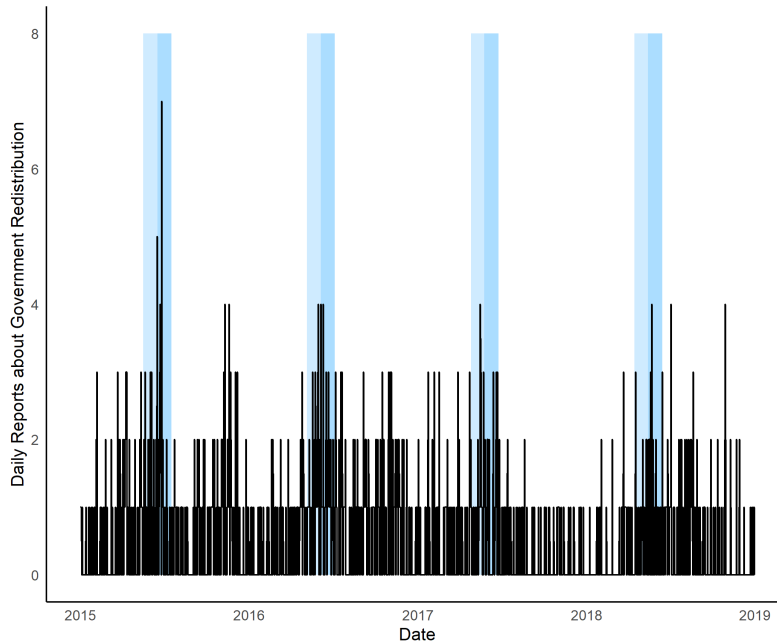

Figure 1: *Note:* The blue shades refers to Ramadan. The lighter shade refers to the month before Ramadan.

Different governments might have different political, economic, or religious incentives to undertake these policies. Yet, attempts to understand the rationale behind these measures cross-nationally are hampered by the diversity in the policy instruments used by various governments and the lack of systematic data across countries and over time. Therefore, this paper focuses on Egypt in the period between 2014 and 2020 to explain the rationale behind Ramadan's distributive policies. It poses two main questions: *Is there a systematic expansion of distributive policies during Ramadan's season?. If so, what is the political rationale behind Ramadan's distributive policies?*

3   The Argument

I argue that government distribution in Ramadan aims at cultivating support and containing short-term political threats *by coopting constituencies where support for the incumbent is low and political threats are high.* Distribution in Ramadan signals

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Ramadan remains a consistent -and statistically significant- predictor of coverage of the government's distributive efforts.

two qualities about the incumbent: capacity and goodness. The earlier is related to its performance. The latter is linked to its moral qualities: religiosity, generosity, and trustworthiness. Ramadan makes this dual-signaling feasible and politically desirable by raising the salience of distributive issues, associating distribution with charitable norms, and boosting the political risks associated with non-responsiveness to economic demands. Hence, by strategically timing its delivery of economic benefits in Ramadan, the incumbent can capitalize on these seasonal structural changes in the religious environment to increase the visibility of its distributive interventions, frame them as sincere, religious, and depoliticized actions, and insure against short-term reputational and collective action threats. Because these threats are more credible where the incumbent's support is low, distribution in Ramadan is more likely to target swing and opposition constituencies.

3.1 The Nature of Distribution in Ramadan

Ramadan introduces structural changes to the religious environment that redefine the salience, meaning, and political returns of distributive policies. These alterations incentivize the incumbent to increase economic provision to signal its capacity and goodness, as well as, contain political threats arising during the season.

First, Ramadan increases the salience of distributive issues. While religious calls for social solidarity are not confined to Ramadan or Islam, the degree to which they are emphasized is stronger in the month of charity. The religious norms and rituals of the month encourage empathy with the poor. As Muslims fast from dawn to sunset, they are primed to think about the struggles of the poor and the hungry. Muslims are also obliged to pay alms, *zakat al-fitr*, and encouraged to increase charitable giving, *sadaqa*, during the month. Hence, charity organizations and religious institutions expand their charity campaigns in Ramadan to highlight social inequalities and encourage donors to contribute to their projects.

Wlezien (2005) defines salience as the "importance" of an issue; how much individuals care about it and view it as a problem. Ramadan ties distributive issues to personal religious obligations and salvation which adds to the weight of these problems in Muslims' life. Alternatively, salience could refer to the "prominence" of an issue: how much attention it receives in voters' minds and media. Besides

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the priming role of rituals, charity campaigns increasing awareness of existing social disparities in sermons, public spaces, and mass media are very prolific in Ramadan. In this religious environment, Muslims are bombarded with reminders, information, and religious calls related to economic deprivation and social inequalities which raises the salience of these issues.

For the government, salience is a double-edged weapon. On one hand, the rising salience of a certain issue could reveal governmental failures. On the other hand, salience brings more visibility and public attentiveness to government interventions and facilitates performance-signaling (Besley and Burgess, 2002). This generates incentives for the incumbent to signal its capacity and responsiveness and capitalize on this seasonal salience for reputational gains by distributing more in Ramadan.

Second, Ramadan's norms determine what actions are socially and religiously desirable. Scholars of religion argue that religious rituals and norms allow followers to identify good and bad religious types. Members' abidance by religious norms and costly rituals signals their commitment to the religious community and its doctrine (Stark and Finke, 2000, Iannaccone, 1992, Hall et al., 2015, Sosis and Bressler, 2003). Meanwhile, those who ignore salient religious norms would be perceived as a "bad" religious type and suffer reputational costs. In Ramadan, charitable giving could act as a screening device that enables members to uncover the religiosity and morality of their fellow Muslims.

In a religious society, political actors -similar to individuals- might be evaluated on their abidance by religious norms and their moral qualities. This rationale is posed by various scholars to explain the "Islamist" political advantage in Muslim societies. Cammett and Luong (2014) claim that the Islamist political advantage lies in Islamists' reputation as honest, competent, pure, and trustworthy. In the case of the Muslim Brotherhood in Egypt, Brooke (2019) argues this reputation was made possible by their success in depoliticizing service-provision, associating it with charity, and demonstrating their availability on regular basis - not only in electoral times. This strategy projected them as compassionate and honest political actors, even amongst their opponents. Along the same lines, Vannetzel (2016) highlights that the Muslim Brotherhood framed their service provision as a religious and charitable act to distinguish it from clientelism and generate political support on moral

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and reputational bases. But even anti-Islamist autocrats in the Arab World, as Masoud (1999) and Feuer (2018) argue, have pursued "Islamic" policies to signal their morality, boost their religious legitimacy, and compensate for their weak democratic legitimacy.

Economic distribution in Ramadan enables the government to signal desirable qualities such as religiosity, goodness, generosity, and trustworthiness. Complying with the norms of the season highlights the incumbent's abidance with the same religious and moral values of its constituents. This feature of distribution in Ramadan is less likely to generalize to distribution in other times. In electoral seasons, clientelistic benefits are tainted with clear electoral motives and constitute a political transaction where benefits are delivered in exchange for support (Hicken, 2011). In contrast, distribution in Ramadan is annual, occurs independently of elections, and tied to a charitable message which obscures its link to the provider's political incentives. Outside religious and electoral seasons, charitable norms are less salient compared to Ramadan which might reduce the effectiveness of distribution in goodness-signaling. Therefore, it is in Ramadan's season that distribution would be the most associated with religious and moral norms.

Third, Ramadan increases the political risks resulting from non-responsiveness to economic concerns. Similar to the role of Friday's congregations in facilitating Muslims' collective action (Lynch, 2013, Butt, 2016, Hoffman and Jamal, 2014), Ramadan's congregations create a threat of political mobilization. During Ramadan, mass religious congregations are held daily. Their popularity surpasses any other time of the year. Mosques are fully occupied with worshippers who expand their congregations to side streets and squares every night of the month. This high rate of mosque attendance provides an opportunity for opposition groups to find new recruits and incite anti-government sentiments. This has propelled some governments, as in Tunisia and Egypt, to increase their surveillance of mosques in Ramadan.

Anecdotal evidence corroborates the assumption that ignoring distributive concerns involves serious political risks in Ramadan. In the last year of Mubarak's rule in 2010, government inaction towards distributive issues provided the opposition with an opportunity to mobilize disenchanted citizens in Ramadan's season. A protest by 6th of April movement against rising food prices erupted one day before Ramadan

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in Cairo. On that same day, an opposition group, *Hashd*, organized a seminar entitled, "Ramadan is generous, but the government is not", criticizing the government's weak support for the poor in the holy month (Saoud and Al-Khouli, 2010). These protest movements highlighted the contrast between government actions and the norms of the month to criticize and challenge the incumbent. The Jordanian protests of 2018 offer another illustration of the policy-sanctioning role of Ramadan. The nationwide nightlong protests came as a reaction to new austerity measures imposed in the month of Ramadan. The protests were facilitated by the evening mass religious congregations particular to Ramadan. Successfully, the protesters forced the government to resign and suspend most of its austerity measures in the holy month.

Meanwhile, the government's options to respond to these rising threats are more limited in Ramadan. The cost of repression is higher in Ramadan because violence against dissenters might be viewed as a violation of the month's norms. Reese, Ruby and Pape (2017) argue that violence on Islamic holidays is very likely to generate societal outrage as it violates the sanctity of these days. In accordance with their claim, they find that Islamist militants decrease their violent attacks on important Islamic holidays to avoid societal disapproval. Similarly, we should expect that governments tame their repressive apparatuses in Ramadan and rely on cooptation by distribution to insure against public discontent.

These structural changes to the religious environment create favorable conditions for the incumbent to employ distribution as a signaling device of its performance and goodness. They also raise the cost of political inaction on distributive issues.

3.2 Targeting

If Ramadan raises potential threats to the incumbent's reputation and political survival, then it is reasonable to assume that pressures for distribution would be stronger in places where these threats are more credible. The allocation of economic benefits in Ramadan, thus, would be biased towards coopting weak supporters (i.e. swing and opposition areas) and more threatening constituencies.

There are reasons to suggest that Ramadan poses more risks in areas with low

political support. Weak supporters are more likely to receive negative information about the incumbent's performance in Ramadan. This could result from selective exposure whereby individuals choose to attend certain mosques and follow media outlets based on their political predispositions. These swing areas are also more likely to be targeted by political opposition for recruitment and mobilization, which is made easier in Ramadan by the high frequency of social interactions and mass congregations. In such contexts, the incumbent's legitimacy deficit could prove to be costly in Ramadan.

Distribution in Ramadan facilitates the cooptation of potential dissidents. Economically, it alleviates the financial burdens of targeted constituencies. Ideologically, it enhances the incumbent's reputation as a service provider and a religious actor. This could bridge the ideological gap between the incumbent and its opponents, particularly in Egypt where a significant sector of the political opposition has strong ties to Islamist movements and preferences for religious rule. As a result, cooptation could create divisions among potential targets of the opposition and limit the chances that seasonal episodes of discontent escalate into serious political threats (Kuran, 1991, Magaloni and Kricheli, 2010).

Furthermore, attracting weak supporters with economic benefits could be more effective in Ramadan compared to other times. Since giving in Ramadan is motivated by a religious message and less politicized, economic distribution resembles a gift or charity rather than a price of political support. Gifts can signal the giver's intention to invest in a relationship (Camerer, 1988) and lead to trust and cooperation (Carmichael and MacLeod, 1997). If provided to untrustworthy and threatening social groups, gifts can insure against the receivers' threat to the giver (Schechter, 2007). Hence, when framed in benevolent and religious terms as in Ramadan, distribution can cultivate trust between the incumbent and its opponents. This insight is critical when contrasted with giving in electoral seasons, for example. Distribution in electoral times works because there is a minimal level of trust that can facilitate cooperation and reciprocation (Finan and Schechter, 2012). Distribution in Ramadan aims at establishing trust, where it is weak, to facilitate future cooperation and mitigate immediate threats. With that goal in mind, it is optimal for the incumbent to target weak supporters in Ramadan.

This logic of distribution in Ramadan contradicts the notion of "punishment" regimes describing distribution in autocracies (Magaloni, 2006, Blaydes, 2010) because the incumbent's incentives to distribute to core supporters are relatively weaker. First, it is hard to assume that the threat posed by core supporters in Ramadan is higher than that of weak supporters. Second, the reputational gains made by signaling performance and goodness would be higher among weak supporters. Core supporters are already predisposed to think well of the incumbent, consume more positive information, and are more invested in the regime. Third, their political affinity to the incumbent makes it easier to buy core voters' support with clientelistic policies in electoral seasons or contentious times. In contrast, winning the hearts and minds of weak supporters requires more investments to create trusting relationships. Fourth, weak supporters have more outside political options compared to core supporters. The latter might be tied to the incumbent with patronage links, economic need, or ideological orientation. Rutherford (2018) suggests that this holds in Egypt, where the regime's core supporters view it as the main -if not only- protector against internal and external threats and so are bound to it. As Kasara (2007) and Corstrange (2016) point out, limited outside options and the dependency of core constituencies on the incumbent could lead to diverting resources away from them to expand the incumbent's support base.

In sum, Ramadan creates favorable conditions for the incumbent to increase its returns from distributive policies while raising the costs of non-responsiveness to distributive concerns. These seasonal structural changes to the religious environment interact with the existing political conditions to generate distributive policies more accountable to disenchanted and threatening constituencies. Ramadan, thus, creates religious cycles of government responsiveness and accountability.

4 Empirical Analysis

4.1 Data

This empirical analysis aims at: (1) documenting Ramadan's effect on government distribution, and (2) explaining subnational variation in governmental allocation of Ramadan's distributive benefits. Scholars of economic policy cycles rely on government budgets to tackle similar questions. However, this approach is not feasible

given the specifics of this study. Analyzing Ramadan's effects requires frequent budgetary reporting by local governments to detect within-year variations in expenditures for subnational units. Such data are not publicly available for Egypt's local governments. In addition, distribution in Ramadan might be partially funded by extra-budgetary resources. In 2014, the Egyptian government initiated a special fund, *Tahia Masr Fund*, which is separate from the general budget. The fund collects donations to implement infrastructure projects and provide social support for the poor. It functions as a parallel distributive channel to the state's system of taxes and transfers. Thus, solely focusing on budgetary data underestimates the government's role in economic distribution.

To address these challenges, I develop an original dataset of daily publicly reported distributive campaigns by government entities in Egyptian municipalities for the period between March 2014 -when President Abdel Fatah al-Sisi was elected- and May 2020. This dataset defines government distribution as *the provision of in-kind food transfers and food subsidies by governmental entities.* Hence, distributive campaigns involve: (1) provision of in-kind food transfers as free food boxes to the public, or (2) increasing the supply of government-subsidized food products by deploying mobile outlet for discounted goods into the municipality, announcing the delivery of additional supplies to existing outlets, or opening up a new outlet. In practice, the provision of in-kind food transfers is done by handing out free food boxes to beneficiaries in targeted neighborhoods. Beneficiaries are not always required to show evidence for economic need. Similarly, a significant portion of food subsidies reaches beneficiaries through mobile government trucks and temporary outlets that sell government-subsidized goods at below-market prices. These are often positioned in a given place for a day or few days, before being diverted to a different location.

The management of these campaigns involves multiple governmental entities but remains highly centralized. The provision of subsidized goods is primarily directed by the Ministry of Supply and Internal Trade. The supply of in-kind food transfers involves the ministries of Social Solidarity and Religious Endowments. The police and military also contribute with their own campaigns. Local governments facilitate the operation of the campaigns.[2] Yet, despite the involvement of multiple players,

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[2]The involvement of multiple government entities in these campaigns is reflected in the data. Besides local governments, campaigns' reports mention the involvement of the military (19%),

most campaigns emphasize their association with the central government and the incumbent president by using slogans, logos, and pictures associated with both. This makes it easier for citizens to attribute the responsibility for these campaigns to the incumbent.

Focusing on distributive campaigns serves this study's goals in several ways. First, their high flexibility allows the government to alter the temporal and spatial allocation of economic benefits in the short-run. In contrast, alternative forms of transfers are determined by rigorous national-level criteria and are stickier in the short-term. Second, these campaigns are linked to one of the most salient policy areas during the period of the study: food prices. Since 2014, the Egyptian government has adopted major economic reforms including cutting energy subsidies and floating the Egyptian currency. To ameliorate the adverse effects of these reforms, the government has expanded its direct provision of in-kind food transfers and food subsidies. Third, although there are no available systematic official counts of the total beneficiaries of these campaigns, their scale is non-trivial. In 2018, the government claimed that one million households benefited from their campaigns in Ramadan, which is approximately equal to targeting about 13 percent of poor households (Kandil, 2018). Yet, the significance of these distributive means is not limited to their coverage, but extends to their high visibility. More visible policy areas are strongly associated with politically-driven policy cycles (Dubois, 2016) because their political returns might exceed their direct beneficiaries. Accordingly, for the purpose of this study, these campaigns offer a good measure to understand the signaling function of distribution in Ramadan at the municipality-level.[3]

The outcome variable is *the number of publicly reported distributive campaigns by government entities in a given municipality-day.* Municipalities provide updates on these campaigns on an almost daily basis on their official Facebook accounts. The daily data on distributive campaigns are collected from announcements made by local governments, at the municipality and governorate levels, on their official social media accounts. Being the most popular social media outlet in Egypt, Facebook is

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civilian ministries (21%), and the police (5%) in distribution.

[3]In contrast, means-tested transfers are targeted for particular households and their political effects might remain limited to receivers due to their low public visibility.

the primary medium on which the government makes its announcements.[4]

The data collection process is composed of several steps. I first constructed a list of Facebook pages associated with each Egyptian municipality based on the country's administrative divisions. These are official government accounts administered by local government officials to communicate their daily actions to the public. Some municipalities, however, do not manage their own pages but communicate their actions and announcements on their governorate's official page.[5] Even when a municipality manages its own page, some government interventions are only reported on the governorate's official page as they might be coordinated with a higher level of government. Given that, the dataset also takes into account municipalities' reports published on their governorates' pages. The final dataset covers 319 municipalities, representing 98 percent of all Egyptian municipalities.[6] I then scrapped all the posts on the list of Facebook pages for the period of the study. This yielded approximately 500,000 posts containing information about daily local governments' actions. To classify these posts, I prepared a detailed manual to categorize the contents of the posts. Research assistants manually classified these posts to identify 5216 distributive campaigns' announcements in the period of the study.[7] The rarity of distributive campaigns relative to other government activities is unsurprising. The vast majority of local government reports are concerned with the daily maintenance of infrastructure and interventions to maintain law and order. Economic distribution remains far less common than these routine activities. Finally, I transform the event-data into daily counts of distributive campaigns for each municipality.[8]

Although I refer to this outcome as a proxy for government distribution, this comes

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[4]In 2019, there were 38 million daily users of Facebook in Egypt amounting to 90 percent of internet users in the country (Radcliffe and Abuhmaid, 2020).

[5]Governorates represent the largest subnational divisions in Egypt. Each governorate is divided into a set of municipalities. While most municipalities coincide with electoral districts, some might include multiple electoral districts.

[6]The few missing municipalities are new cities that are sparsely populated and lacking data on other relevant variables.

[7]Due to the large volume of the data, the intercoder reliability was assessed on a random sample of 2000 posts. Positive reports of distribution were sampled at a higher probability due to their rarity and to obtain a conservative assessment of intercoder reliability. The sample's Cohen's kappa is 0.9, indicating strong agreement among coders.

[8]It is important to note that not all municipalities start reporting their activities on the same date. Municipalities enter the dataset starting from the date of their first report, regardless of whether that report is related to distributive campaigns.

with important caveats regarding its interpretation. First, this measure is not a perfect record of distributive campaigns by local governments. It is an account of *publicly reported distributive campaigns.* Despite possible discrepancies between these two accounts, this outcome captures the portion of distributive efforts that the government wants and does communicate to the public. Moreover, I expect this measure to be correlated with the operations of distributive campaigns on the ground. Government officials have an interest in communicating news about economic distribution to cultivate political support. More importantly, local government officials have strong career incentives to make these announcements. It signals, to their superiors, their seriousness in polishing the regime's image at the grass-root level. Meanwhile, there are constraints to inflating reports about distributive campaigns. The publicity of these posts acts as an accountability check on local government reports. Government Facebook pages are followed by local citizens who could call out inaccuracies in government posts by commenting on them. This pushes local governments to support their posts with accurate details and pictures to validate their claims. These incentives and constraints, therefore, reduce the possibility that government reports are consistently biased either negatively or positively.[9] Second, this measurement captures a specific channel of distribution that is salient, highly visible, and flexible. This strategy resembles other works that focuses on the politics of particular distributive programs (e.g.: De La O, 2013, Magaloni, 2006). Finally, this measure does not account for differences in the scale of these campaigns, but only their incidence. Yet, based on my observations in the field and the written and visual information contained in the announcements, these campaigns seem to have comparable magnitudes because of the logistical constraints to their deployment.

To measure the effect of Ramadan, I employ dummy indicators for Ramadan and the preceding month. As the government anticipates Ramadan, it launches some of its campaigns in the month before. So, the full effect of *Ramadan's season* on government policies extends to the two-month period. Separating the effects of Ramadan and the preceding month allows us to characterize Ramadan's policy cycles more precisely and understand the features of municipalities that the government

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[9]Note that this does not rule out the presence of measurement error in the variable. Yet, this error is likely to be random, rather than systematic. Since distribution is the outcome variable, this random measurement error would increase statistically uncertainty, but without biasing our estimates.

prioritizes with earlier campaigns.

My hypothesis is that distribution in Ramadan would be higher in municipalities where support for the incumbent is low and political threats are higher. I employ three different moderating variables to test this claim: (1) electoral support, (2) socioeconomic development, and (3) threat of political collective action. I measure electoral support as the vote share of President al-Sisi out of all votes cast in the latest presidential elections, as reported by the Egyptian National Elections Commission.[10] This understanding of electoral support emerges from the Egyptian political context. After the ouster of Mohamed Morsi in 2013, various opposition groups called for boycotting the presidential election of 2014 by abstaining, voting for the "opposition" candidate, and spoiling the ballots. President al-Sisi won by 97 percent, with no significant challenge from his single opponent. Yet, the boycotting campaign placed the number of spoiled ballots second after the winner. A similar scenario was repeated in 2018 when the incumbent won by 97 percent of the vote, while opposition groups called for boycotting the election and spoiling ballots.[11] These electoral dynamics resemble those observed in other autocratic elections, where voting for weak candidates or spoiling ballots are acts of political defiance (Gandhi and Lust-Okar, 2009). This measure of electoral support takes the context's specifics into account.

Socioeconomic development is measured using a summative index, ranging from 0 to 1, that combines five indicators of human and economic development: the proportion of the urban population, the proportion of adults with formal education, and proportion of the municipality's buildings with access to water, electricity, and sewage.[12] Drawing on the literature on autocracies and Egypt, I expect political threats to the incumbent to increase with socioeconomic development, and so distri-

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[10]Note that vote shares are reported for electoral districts, while this analysis is at the municipality level. The majority of municipalities match electoral districts, but some municipalities incorporate multiple districts. For these cases, I calculate the vote shares of all districts within the municipality.

[11]In both elections, threats of enforcing compulsory voting rules were brought up in the media which might have contributed to bringing discontent voters to the polls and raising the number of spoiled ballots.

[12]The index has a Cronbach's alpha value of 0.77, indicating its high reliability. The data was obtained from the Egyptian censuses of 2006 and 2017 conducted by the Egyptian Central Agency for Public Mobilization and Statistics (CAPMAS). Distribution data were matched with the latest available census.

bution in Ramadan would be higher in more developed municipalities. In autocratic regimes, socioeconomic development expands the middle-class and increases political threats. Middle-class citizens tend to be more ideological, harder to coopt with clientelistic strategies, and have stronger preferences for programmatic politics and good governance (Kitschelt, 2010). The economic interests and political preferences of the middle-class might undermine the survival strategies of authoritarian regimes and act as a democratizing force (Acemoglu and Robinson, 2005, Boix, 2003, Leventoğlu, 2014, Magaloni, 2006). This applies to Egypt. In Mubarak's era, the regime utilized its clientelistic machine to mobilize poor voters in elections (Blaydes, 2010), crippling the opposition's ability to win the votes of the poor. Middle-class constituents, however, were more more invested in the ideology and qualities of their politicians and less willing to compromise for clientelistic benefits (Blaydes, 2010, Masoud, 2014, Brooke, 2019). Masoud (2014) shows that this reflected on the strategies of the Islamist opposition, who directed their resources to target middle-class voters all year long, and in Ramadan's season, allowing Islamists to build a reputation as a benevolent service provider. Brooke (2019) argues that this strategy allowed the regime to alleviate distributive pressures, particularly in times of economic crises, at the expense of increasing middle-class voters' closeness to Islamists. This proved to be a costly strategy when the middle-class became the engine of the mass uprising that ended Mubarak's rule in 2011 (Kandil, 2012). Given their historical ties with the Islamist opposition and propensity for contention, more developed constituencies pose a potential political threat.[13]

The threat of collective action is captured by the number of violent protests and riots in the month before a given date in a given municipality, obtained from the ACLED dataset. Due to government restrictions on mass collective action in the period of the study, anti-government protests often involve violence due to clashes with security forces. In contrast, pro-government protests are more likely to be peaceful as they meet no opposition from security forces. Thus, I exclude peaceful protests and focus on violent collective actions to better capture the threat to the incumbent.

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[13]This does not mean that distribution in Ramadan is not targeted to the poor. Areas with higher socioeconomic conditions would still have poor residents, though they are not the poorest of the poor. Distributing in Ramadan to the poor in areas with more middle and upper-class citizens has the additional advantage of demonstrating government actions to more economically privileged classes.

4.2 Estimation

The estimation procedure uses a Poisson regression to account for dispersion in the outcome variable. The skewed distribution of the nonnegative count outcome prompts the use of a count model. Among possible count models, Poisson regression is less likely to suffer problems when used with fixed effects (Greene, 2007). To first evaluate Ramadan's effects on distribution, I estimate Poisson models with the two main independent variables and no interactions with municipality-level moderators. I then interact the two independent variables with the moderators, separately, to specify the characteristics of municipalities receiving more distributive campaigns as presented in Equation 1. The main coefficients of interests are β_3 and β_4, which refer to the change in Ramadan's effects by the moderating factor.

$$
E(Y_{mt}) = exp(\beta_1 R_t + \beta_2 PR_t + \beta_3 R_t \text{ x } M_{mt} + \beta_4 PR_t \text{ x } M_{mt}
$$
$$
+\alpha Y_{m,t-1}...Y_{m,t-7} + \tau M_{mt} + \rho X_{mt} + t\gamma_{mt} + \pi_t + \Omega_m + \epsilon_{mt}) \tag{1}
$$

where m indexes municipalities and t is the date of the day. Y_{mt} is the outcome, with seven lags on the RHS. R_t and PR_t are indicators for Ramadan and the month before. M_{mt} refers to the moderating variable. X_{mt} is a matrix of controls. γ_{mt} captures within-municipalities time trends, π_t refers to year fixed effects, and Ω_m is municipality fixed effects.

The RHS includes lags for the dependent variable, time trends, and fixed effects to account for potential concerns related to panel data. I include seven lags for the dependent variable on the RHS to account for the possibility that the presence of a campaign in a given location is dependent on the presence of campaigns over the past week. The indicator of municipality-specific time trends serves two functions. It absorbs the effect of potential trends in distributive campaigns within municipalities. It also addresses concerns over the measurement of the outcome variable by accounting for trends in reporting within a municipality. The fixed effects for municipalities absorb the effects of any time-invariant municipality-specific factors that might influence the outcome such as variation in reporting patterns across municipalities. Including year fixed effects controls for changes at the national level that might influence the outcome, like electoral years or economic policy changes. Standard errors are clustered for municipalities and years.

All the moderating variables are incorporated as controls in all specifications. Besides that, I control for the log of the population and the turnout rate in the last presidential election. Distribution might also be affected by the occurrence of elections. So, I add a dummy indicator for the month of elections with positive values for the day of the election/referendum and the month leading to it. All models include dummies for the two-month period preceding and following the electoral month as well.[14] Besides that, all models include indicators for national and religious holidays, weekends, and the first month of the fiscal year.

Theoretically, we expect the interaction terms to be negative with electoral support and positive with socioeconomic development and collective action. Throughout the analysis, I report coefficients in terms of log odds ratios and incidence rate ratios –presented in parentheses. The interpretation of the results would focus on the incidence rate ratios.

4.3 Main Findings

Table 2 presents the results from estimating Ramadan's effects on distributive campaigns. In column (1), the results are estimated with only fixed effects, but no controls. The effects of Ramadan's season are positive, statistically significant, and substantively meaningful. In anticipation of Ramadan, the government increases the number of distributive campaigns by 83 percent on any given day in the season. This continues during Ramadan when the number of daily distributive campaigns remains 55 percent higher than other times outside the season. This signifies the government's proactivity in addressing inequality in Ramadan. These conclusions remain unchanged after including the controls, as shown in column (2).

Distribution is also higher in the month of elections. When citizens are expected to vote in an upcoming election or referendum, distributive campaigns increase by about 32 percent in the days leading to the election compared to other times outside the electoral season. Distributive campaigns, therefore, are one manifestation of political business cycles and an instrument for short-term political mobilization. None of the main socio-economic or political variables are statistically significant. This

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[14]Note that I treat referendums as elections. Egypt had two referendums in 2014 and 2019, but both were aimed at consolidating the political power of the incumbent.

indicates that these campaigns are not generally targeted towards areas with certain economic and political backgrounds, but strategically timed to peak in religious and electoral seasons.

Table 2: Poisson Regression Estimates of Ramadan's Effects

	(1)	(2)
Pre-Ramadan	0.602 (1.827)***	0.645 (1.905)***
	(0.145)	(0.156)
Ramadan	0.436 (1.547)**	0.481 (1.618)**
	(0.157)	(0.165)
Electoral Month		0.276 (1.318)*
		(0.133)
Support		2.62 (13.668)
		(3.69)
Development		-0.293 (0.746)
		(0.701)
Col. Action		-0.189 (0.828)
		(0.141)
Controls	N	Y
Observations	646,808	589,945

Note: Incidence Rate Ratios are reported in parentheses. Standard errors in parentheses *below* the coefficients are clustered for municipalities and years. The second model contains all the controls described in Section 4, but only controls with theoretical relevance are displayed.

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The empirical predictions of my theoretical argument is that Ramadan's distributive campaigns are more likely to target municipalities where: electoral support is low, socioeconomic development is high, and the threat of collective action is high. Table 3 presents the main interaction coefficients of interest estimated from Equation 1. All the moderating variables have significant interactions with at least one indicator of Ramadan's season. And, all the interactions are in the theoretically predicted directions. This is also evident in Figure 2 which plots the marginal effects of Ramadan (right) and the month before (left) at various levels of the moderating variables. The plots show that the marginal effects of Ramadan's season decrease
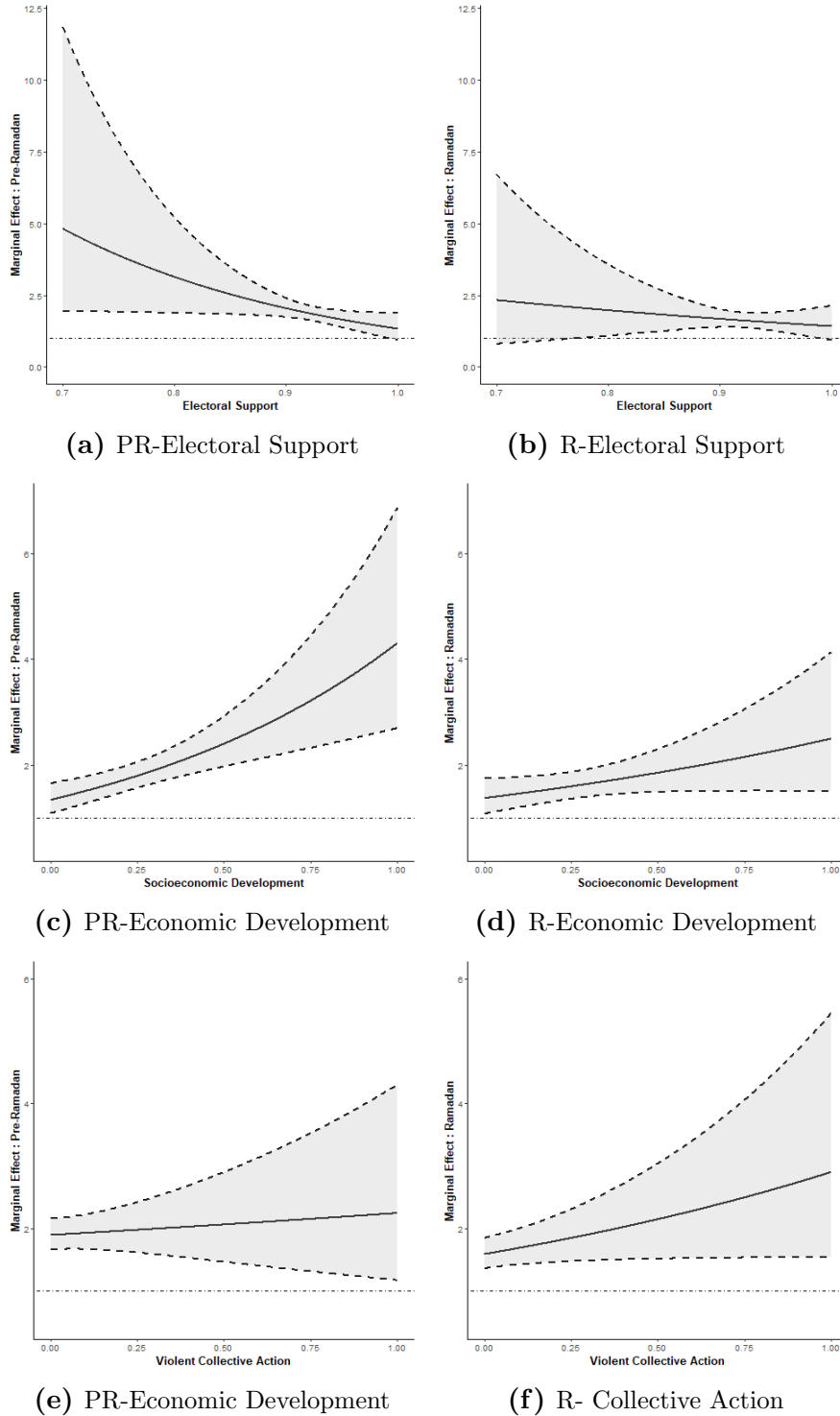
21

with electoral support and rise with socioeconomic development and the threat of collective action.

Table 3: Poisson Regression Estimates - Ramadan's Effects by Municipality Characteristics

	(1)	(2)	(3)
Pre-Ramadan	4.57 (97.008)**	0.293 (1.340)	0.640 (1.897)***
	(2.11)	(0.192)	(0.152)
Ramadan	2 (7.391)	0.316 (1.372)*	0.465 (1.591)***
	(3.1)	(0.171)	(0.160)
Pre-Ramadan x Support	-4.29 (0.014)*		
	(2.21)		
Ramadan x Support	-1.65 (0.192)		
	(3.33)		
Pre-Ramadan x Development		1.17 (3.213)***	
		(0.379)	
Ramadan x Development		0.599 (1.820)*	
		(0.340)	
Pre-Ramadan x Col. Action			0.170 (1.185)
			(0.282)
Ramadan x Col. Action			0.602 (1.826)**
			(0.280)
Observations	589,945	589,945	589,945

Note: Incidence Rate Ratios are reported in parentheses. All models contain municipalities and year fixed effects. Standard errors in parentheses below the coefficients are clustered for municipalities and years. All models include all the controls specified in Section 4, but only controls with theoretical relevance are displayed. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 2: The Marginal Effects of Pre-Ramadan (Left) and Ramadan (Right) Indicators on the Incidence Ratio of Distributive Campaigns by Moderating Variables

(a) PR-Electoral Support

(b) R-Electoral Support

(c) PR-Economic Development

(d) R-Economic Development

(e) PR-Economic Development

(f) R- Collective Action

Note: The plotted line refers to the marginal effects of Ramadan (left) and the preceding month (right) on incidence rate ratio at different levels of the moderating variable. All models contain municipality and year fixed effects. Confidence intervals are estimated at the 95 percent level.

Distribution in Ramadan is significantly lower in municipalities where electoral support for the president is high. This cost of loyalty is large. For example, the most supportive municipality receives about 40 percent more campaigns in the month before Ramadan, while the least supportive municipality experiences about 340 percent increase in campaigns during the same period. So, the allocation of distributive campaigns responds to electoral pressures and aims at cultivating political support where it is weaker.

During Ramadan's season, distributive resources are directed towards municipalities with higher levels of socioeconomic development: more urban, educated, and with higher access to basic services. The magnitude of these additional gains in developed areas is also substantively large. For example, the median municipality receives an increase in distributive campaigns by 61 percent in Ramadan. Meanwhile, a municipality at the 75th percentile (with a 52 percent higher development index than the median) witnesses a rise in campaigns in Ramadan by 75 percent. In line with my theoretical predictions, more developed areas benefit more from Ramadan's distributive campaigns.

As shown in column (3), distributive campaigns are more likely to target municipalities where violent collective action occurred over the last month. One violent protest more than doubles the municipality's share of distribution in Ramadan.[15] So, citizens are able to extract more resources by signaling their threat before Ramadan. The incumbent insures against further escalation during Ramadan by channeling more resources towards contentious areas.

These findings support the idea that distributive campaigns in Ramadan are politically motivated. They aim at building ties with constituencies where political support is low and the threat to the incumbent is high. These political threats are manifested in areas that are electorally defiant, socioeconomically developed, and politically contentious. In that respect, Ramadan facilitates the materialization of citizens' threats into policy responsiveness.

In the supplementary materials, I exclude two alternative explanations for these

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[15]In Ramadan, the average municipality experiences 0.04 protests.

findings suggesting that the spatial allocation of Ramadan's benefits is: (1) motivated by the government's economic incentives for profits from selling its own products, or (2) driven by the bureaucratic quality of local governments. I also provide evidence from various tests corroborating the robustness of the findings to different model specifications and measurement strategies.[16]

4.4 Probing Causality: Price Shocks and Ramadan

Theoretically, I argue that the incumbent distributes more when Ramadan's season coincides with political threats and public discontent. Although the research design is set to minimize potential bias to the coefficients of interests, causal identification remains a concern. Accordingly, to identify an exogenous source of variation for political support/threat in Ramadan, I leverage a series of price shocks triggered by the government's reforms to the energy subsidy program.

Austerity measures, reductions in government subsidies, and subsequent price hikes are key sources of political unrest (Giugni and Grasso, 2016, Canak, 2019, Fjelde, 2015). Egypt's attempt to reduce food subsidies in 1977 led to violent "bread riots" before the subsidies were reinstated. These events discouraged most subsequent Egyptian governments from reducing food and energy subsidies. Similar IMF-mandated reforms to the Tunisian subsidy program led to public riots in 1983-1984. Recently, the Jordanian government's imposition of austerity measures and subsidy reductions in Ramadan of 2018 sparked nationwide protests. Given that, one can assume that public discontent and political threats are proportional to the extent of citizens' exposure to government-orchestrated positive price shocks (i.e. negative shocks to subsidies).

In 2014, the Egyptian government started the implementation of a multi-year plan to reduce energy subsidies gradually at the beginning of every fiscal year in July. Although the reforms altered the pricing of several energy products, I focus on the impact of electricity prices. Electricity takes the largest share (50 percent) of the Egyptian household's energy bill (Banerjee et al., 2017). Exposure to electricity price shocks, thus, can offer a good assessment of citizens' vulnerability to the reforms. The provision of electricity is monopolized by the state. This market structure

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[16]The relevant analyses are provided in Appendix A and Appendix B.

makes it easier for citizens to attribute the responsibility for price changes to the government. The supply chain of other necessities (such as food and gas) involve private market actors to whom the incumbent can deflect the blame. This clarity of responsibility is critical, knowing that the reforms were unpopular among several societal groups: low and middle-income classes, leftists, and Muslim Brotherhood sympathizers. A household survey conducted before the implementation of the reforms reports that two-thirds of respondents believed that energy prices were already high and about 80 percent of respondents stated that they could afford a maximum of 5 percent increase in their energy bill (Banerjee et al., 2017). Therefore, exposure to electricity price shocks can provide a proxy for the level of political discontent and threat.

The execution of these reforms provides temporal and spatial variation in the degree of exposure to the price changes of electricity, and subsequently the level of political discontent/threat. The first source of variation stems from the gradual implementation of the program over time. Lifting the subsidies and raising energy prices start in July -the first month of the fiscal year. Since the beginning of Ramadan is governed by the lunar Islamic calendar and changes every year, whether a given day in Ramadan's season coincides with a price shock (and potentially high discontent) is governed by the lunar calendar.[17] Thus, exposure to the price shocks would occur on different days of the Islamic calendar in different years and remains independent of the timing of Ramadan.

The extent of exposure to the shock also varies among municipalities. To elaborate, consumers are classified into seven tiers based on their level of electricity consumption. The tier of the consumer determines the price of electricity units and the share of subsidies in the pricing. Every fiscal year, the reforms introduced discriminate changes to the pricing of electricity based on consumers' tier. Thus, the change in the price of each unit of electricity varies for each tier and fiscal year and ranges from a 0 percent to a 69 percent increase in the price per unit.

For any given municipality, exposure to the price shock depends on the tier of its representative household. I deduce the tier of the representative consumer in

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[17]In the period of the study, Ramadan's beginning moves from the end of June in 2014 to April in 2020.

every municipality using data on levels of electricity consumption in 2013 before the implementation of the subsidy-reduction program.[18] Relying on past consumers' classification assumes that discontent from these price changes is not only financial but might also be due to lifestyle changes to reduce the cost of the bill. Paying more for the same service and paying the same for less service are both treated as sources of discontent. Acknowledging that consumers might change their behavior (and so their municipality's tier) to conserve their consumption, this measurement strategy ensures that municipalities' exposure to the shock is not endogenous to the level of change in electricity prices.

The temporal and spatial variation in exposure to the price shocks allows us to identify their causal effect on the campaigns, as well as, understand how such an effect differs in Ramadan's season. I measure exposure to the electricity price shock as the price per kilowatt for the average household in a given municipality-day, which is standardized with a mean of 0 and standard deviation of 1. The estimation procedure employs a difference-in-differences design with two-way fixed effects for municipalities and days (dates). The model is estimated with a Poisson regression and includes the same controls employed in Equation 1.[19] Yet, the effects of municipality-invariant variables are absorbed by the fixed effects and are not estimated. As presented in Equation 2, the coefficients on the interactions ($\beta 2$ and β_3) between Ramadan's indicators and the pricing measure (Price) are the main quantities of interest.

$$
\begin{aligned}
E(Y_{mt}) = exp(\beta_1 P_{mt} + \beta_2 R_t \text{ x } P_{mt} + \beta_3 PR_t \text{ x } P_{mt} + \alpha Y_{m,t-1}...Y_{m,t-7} \\
+ \tau P_{mt} + \rho X_{mt} + t\gamma_{mt} + \pi_t + \Omega_m + \epsilon_{mt})
\end{aligned}
\tag{2}
$$

where m indexes municipalities and t is the date. Y_{mt} is the outcome, with seven lags on the RHS. R_t and PR_t are indicators for Ramadan and the month before. P_{mt} refers to the pricing variable. X_{mt} is a matrix of time variant municipality-level controls. γ_{mt} captures within-municipalities time trends, π_t refers to day of the year (date) fixed effects, and Ω_m is municipality fixed effects.

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[18]More details on the policy and how the tiers are derived are provided in Appendix D.

[19]It also controls for the lagged price per kilowatt.

Table 4 presents the results for the main variables. In both models, the price variable has a negative -but statistically insignificant- coefficient. This means distributive campaigns do not focus on compensating constituents most affected by the reforms. However, places that are more exposed to price shocks receive more campaigns in Ramadan's season, primarily in the month before Ramadan itself. Interestingly, this proposes that the incumbent might anticipate the price hikes coinciding with Ramadan by diverting more resources towards areas that have already been severely affected by previous price changes in the month before Ramadan. Distribution campaigns, thus, might be insurance against the escalation of political pressures from those vulnerable to price hikes in Ramadan.

Table 4: Poisson Regression Estimates of Price Shocks and Ramadan

	(1)	(2)
Price	-2.11 (0.12)	-2.2 (0.111)
	(2.88)	(2.91)
Pre-Ramadan x Price		0.231 (1.26)**
		(0.087)
Ramadan x Price		0.059 (1.06)
		(0.100)
Observations	382,524	382,524

Note: Incidence Rate Ratios are reported in parentheses. Both models contain municipality and day of the year fixed effects, with standard errors in parentheses below the coefficients clustered at same levels. Both models contain all the controls described in the text. $^+$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

These findings confirm our main conclusions. The level of distribution in Ramadan is related to the level of political support and the potential threat posed by a given municipality. Price shocks, particularly those initiated by the government itself, can cause social unrest and fuel political grievances. Leveraging temporal and spatial variation in exposure to centrally-planned price shocks in Ramadan, I find that although distributive campaigns are not generally targeted towards most affected municipalities, distribution in Ramadan's season is proportional to municipalities' exposure to these shocks and so the potential political threats they pose.

4.5 Causal Mechanisms

My argument is that the incumbent directs resources in Ramadan towards areas where its political support is low and the threat to its survival strategies is higher. This is because distribution in Ramadan: (1) enables the government to signal its capacity and goodness, (2) is less likely to be perceived by voters as a clientelistic or politically-motivated strategy, and (3) capitalizes on the month's religious norms to enhance the incumbent's reputation among its potential opponents. In this section, I test these claims by studying voters' reactions to distribution in Ramadan.

The analysis of these causal mechanisms employs the sixth wave of the Afrobarometer data. The data collection process of this survey started only five days before Ramadan of 2015 and ended during the month of Ramadan. This offers a unique opportunity for studying the effects of distribution in Ramadan on voters' perceptions of the government due to the close temporal proximity between the survey's fieldwork and distribution of benefits. The main independent variable of interest is the number of distributive campaigns in a respondent's municipality over the week preceding the date of the interview.

Testing the proposed theoretical mechanisms requires us to examine various outcome variables. First, I test citizens' evaluations of the incumbent's economic performance using two different measures. *Performance* is a summative index of respondents' evaluation of the government's economic performance on several dimensions: handling the economy, combating poverty, reducing inequalities, job creation, containing inflation, and fighting hunger. *Economic Conditions* is a summative index of respondents' retrospective, current, and prospective evaluations of the country's economic conditions. Second, to assess whether distribution in Ramadan enables the regime to signal positive "moral" qualities, I construct a summative index of respondents' trust in the president, local governments, parties, the military, and the police.[20] As an alternative measure, I use an index for respondents' perceived corruption of the government, local government, and the police. These two measures focus on the perceived trustworthiness and integrity of the incumbent's key institutions.[21]

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[20]These are the only available political institutions available in the survey for Egypt.

[21]The Cronbach's alpha values of these four measures are 0.82, 0.85, 0.76, and 0.75, respectively. This indicates a good level of internal consistency and reliability of the four indices.

Evaluating whether respondents perceive distribution in Ramadan as a form of clientelism is challenging. There is no survey question that is exclusive to this form of distribution. Accordingly, as a proxy, I employ a question that asks respondents about "how common it is that voters are bribed". If respondents perceive distribution in Ramadan as another means of clientelism and vote-buying, then we expect them to evaluate voters' bribery to be more prevalent. Note that all these five measures are continuous measures and standardized with a mean of 0 and a standard deviation of 1.[22]

The estimation procedure employs OLS models with fixed effects for municipalities. The inclusion of fixed effects absorbs the effects of time-invariant characteristics of municipalities. This modeling choice leverages *variation in exposure to distributive campaigns within a municipality over time* because the independent variable is measured daily. In addition, all models control for respondents' demographic characteristics: gender, age, age-squared, employment status, urban residency, and educational level.[23]

Table 5 presents the coefficient on the distribution variable for the five outcomes. Columns (1) and (2) confirm that distribution in Ramadan has no significant effect on voters' perceptions of the incumbent's economic performance. However, column (3) reveals that these distributive campaigns have a significant positive relationship with respondents' trust in the incumbent's institutions. This correlation is substantively large: one distributive campaign is associated with one-third of a standard deviation increase in trust of institutions. The results in column (4) go along the same lines, albeit statistically insignificant. This suggests that distribution in Ramadan improves the reputation of the incumbent's institutions, yet without significantly altering perceptions about its competency.

Interestingly, the coefficient in column (5) suggests that voters do not associate distribution in Ramadan with clientelistic practices. On the contrary, respondents witnessing more campaigns in their municipality perceive clientelism to be less preva-

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[22]The relevant survey questions of all measures are provided in Appendix E

[23]As a robustness check, I also estimate a set of OLS models with governorate fixed effects in Appendix E and find the same results.

lent. The magnitude of the coefficient is also large: one campaign is associated with almost a half standard deviation decline in perceived clientelism.[24] Admittedly, the magnitude of this effect is puzzlingly large, but it confirms that voters perceive distribution in Ramadan and electorally-motivated distribution differently.

Table 5: OLS Analysis of Respondents' Reactions to Distribution in Ramadan

	(1) Performance	(2) Econ. Cond.	(3) Trust	(4) Corruption	(5) Clientelism
Distribution	0.11	0.01	0.34*	-0.22	-0.59**
	(0.17)	(0.16)	(0.14)	(0.14)	(0.20)
R^2	0.31	0.258	0.26	0.29	0.35
Observations	1,057	1,056	1,061	998	960

Note: All models include fixed effects for municipalities and controls for gender, age, age-squared, employment, labor force status, urban residency, and educational level. Standard errors in parentheses are clustered for municipalities. All outcomes are measured in standard deviations.

[+] $p < 0.10$, [*] $p < 0.05$, [**] $p < 0.01$, [***] $p < 0.001$

Next is to understand whether these campaigns are particularly more effective in enhancing perceptions of the incumbent among its potential opponents. One proxy of this profile of citizens is whether they agree that "the country is better with more religious people in public office". Such a position is often a strong indicator of support for Sharia and Islamists (Ciftci, 2013). Given the incumbent's strong anti-Islamist stance, these ideological voters might be harder to buy with clientelistic benefits and are less likely to support the incumbent. Furthermore, this profile of respondents cares about the religious and moral characteristics of public officials and evaluates them accordingly. Hence, we expect the government's reaction to Ramadan's norms to feed into their evaluations.

The estimation procedure extends the OLS analysis in Table 5 by adding an interaction term between the level of distribution and a dummy for respondents' (Islamist) position. The results in Table 6 strongly support the idea that Ramadan's campaigns

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[24]We might also suspect that municipalities receiving more distributive campaigns in Ramadan are less likely to be targeted with clientelistic benefits in electoral times. Yet, this possibility is accounted for by the municipality-level fixed effects.

enhance the incumbent's perceptions among its potential opponents. As expected, Islamist sympathizers perceive the incumbent to be incompetent, untrustworthy, corrupt, and clientelistic. However, their negative perceptions vanish and flip as they witness more distributive campaigns in Ramadan. One distributive campaign is associated with about a third of a standard deviation increase in Islamists' evaluation of the incumbent's economic performance. Similarly, the campaigns are effective in creating an image of the incumbent as trustworthy and less corrupt. They also remain disassociated from clientelism among Islamist sympathizers. Hence, overall, distribution in Ramadan erodes the "Islamist disadvantage" of the anti-Islamist incumbent.

The fact that distributive campaigns have almost no effect on non-Islamists is very suggestive of how these campaigns serve their political goals. If Ramadan's campaigns work because they turn the salient religious norms to their advantage, then we expect their political returns to be generated primarily from constituents who care about these norms, follow them, enforce them, and desire a government abiding by them. Indeed, the findings credit this claim.

Table 6: OLS Analysis of Respondents' Reactions to Distribution in Ramadan by Ideological Position

	(1) Performance	(2) Econ. Cond.	(3) Trust	(4) Corruption	(5) Clientelism
Distribution	0.12	-0.11	0.17	0.10	-0.65**
	(0.18)	(0.17)	(0.15)	(0.13)	(0.20)
Islamist	-0.32***	-0.51***	-0.47***	0.37***	0.25**
	(0.08)	(0.12)	(0.09)	(0.10)	(0.08)
Distribution x Islamist	0.37**	0.46***	0.35*	-0.43**	-0.51**
	(0.14)	(0.11)	(0.16)	(0.14)	(0.18)
R^2	0.35	0.31	0.34	0.34	0.37
Observations	910	910	910	881	863

Note: All models include fixed effects for municipalities and controls for gender, age, age-squared, employment, labor force status, urban residency, and educational level. Standard errors in parentheses are clustered for municipalities. All outcomes are measured in standard deviations.

[+] $p < 0.10$, [*] $p < 0.05$, [**] $p < 0.01$, [***] $p < 0.001$

These insights confirm that Ramadan's campaigns do signal moral qualities about

the incumbent and facilitate the establishment of a reputation-based linkage with voters. This might be attributed to the less politicized perceptions of these campaigns among voters, due to their association with charitable norms. The returns of distribution in Ramadan are much higher among the incumbent's potential opponents which might rationalize the geographical allocation of these campaigns.

Anecdotal evidence suggests that the incumbent invests in maintaining this religious and moralistic facade of these campaigns and disassociates them from other clientelistic practices and electoral incentives. In 2017, the secretary of the Nation's Future Party (NFP), the party most affiliated with the incumbent, in Menoufia governorate announced that the party would take its name off of any food packages they distribute to the needy in Ramadan, to show that their goal is to socially support the poor with no additional intentions. The NFP's leader in Fayom's governorate made a similar statement saying that their Ramadan campaigns send a message to the "tendentious and mercenaries" who claim that the party only provides for the poor before elections or referendums.[25] These efforts to distance distributive campaigns in Ramadan from politically-motivated ones add to the plausibility that these campaigns aim at polishing providers' reputation and maintain a distinction from distribution in other times.

In the supplementary material, I provide further evidence in support of the proposed causal mechanisms. First, in Appendix E, I find that distribution outside religious seasons does not generate similar political returns. Second, the government's framing of its distributive efforts differs in Ramadan's season by significantly emphasizing the religious norms driving the government's actions as analyzed in Appendix G. Third, distribution in electoral times and other religious seasons is not directed towards the same constituencies targeted in Ramadan, suggesting that the targeting criteria are governed by the nature of the challenges and changes presented in every season.[26] Therefore, both in its returns and practice, distribution in Ramadan serves politically distinctive functions from that in other times.

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[25]These statements were reported on the official Facebook account of the Nation's Future Party https://www.facebook.com/mostqbalwataneg/

[26]In Appendix F and Appendix H, I describe the targeting criteria for distributive campaigns in electoral seasons and the religious season of *Eid al-Adha*.

5 Discussion

In most Muslim majority countries, governments anticipate Ramadan's season by instating various measures addressing citizens' economic insecurities. Drawing on evidence from Egypt, this paper demonstrates that the incumbent responds to Ramadan by expanding the provision of economic benefits to coopt areas where political threats are higher and support is lower. This targeting strategy capitalizes on the religious nature of distribution in Ramadan to earn the incumbent a reputation for trustworthiness and goodness, even among its likely opponents. This temporal and spatial allocation of economic benefits poses Ramadan's season as a catalyst for government responsiveness to citizens' economic concerns in Muslim societies.

These findings reveal the power of religion in shaping short-term and long-term policy-making in religious societies. In the short-run, Ramadan creates favorable conditions for the government to expand its distributive policies. Although this expansion is temporary, it is telling of a deeper impact of religion on the structure of economic policy-making. In Muslim societies, governments anticipate Ramadan, understand the importance of redistribution in this time, and plan their temporal allocation of financial resources accordingly. Ramadan also changes the allocation of the government's human resources over time. During the season, bureaucracies are diverted towards addressing salient concerns in Ramadan. Mechanically, this would decrease their supply of less salient services during that period. Thus, the full effect of Ramadan extends across various policy areas over the course of the year.

This brings a different perspective on the relationship between religion and distributive politics. Evidence from predominantly Christian democracies shows that government redistribution is lower in more religious societies (Scheve and Stasavage, 2006, Huber and Stanig, 2011, De La O and Rodden, 2008). One explanation for this is that citizens substitute governmental for religious redistribution, which disincentivizes the government to redistribute. My findings show that government redistribution is higher in Ramadan, *despite higher religious redistribution*. This does not mean that Muslim governments redistribute more, but that they do so when religious substitutes are particularly abundant. Therefore, religious distribution might not necessarily reduce government distribution. Instead, it could push the incumbent to contribute to religious mechanisms of distribution to appeal to

religious constituents. Pressures on the government to abide by the religious norms of its subjects can turn religious and governmental channels of distribution into complements rather than substitutes.

The relevance of Islam to Middle Eastern distributive politics and governance, thus, should not be confined to the study of Islamist movements. Even the most anti-Islamist governments have to deal with the reality that their constituents are religious Muslims, urging the most secular Middle Eastern leaders to deliver "religious" policies (Feuer, 2018). And, while Islamists might be better positioned to exploit the religious environment to their advantage (Grewal et al., 2019), their rivals have incentives to utilize the same opportunities. In religious Muslim societies, political actors can gain by appearing "more Muslim", which deepens the influence of Islam on policy-making and breaks the monopoly of its use by Islamists. The distributive politics of Ramadan in Egypt suggests that the "Islamist advantage" might be largely a reflection of an "Islamic advantage" inherent in religious Muslim societies, but its exploitation is not exclusive to Islamists as commonly studied.

Moreover, the results reveal the complexity of distributive policy decisions in autocracies. Scholars describe two main ways by which autocrats use distribution to prolong their political survival. On one hand, incumbents can use distribution to reward supporters and punish opposition districts to maintain their level of political support (Magaloni, 2006, Blaydes, 2010). On the other hand, the incumbent can exploit their supporter's loyalty and lack of alternative political options to divert resources away from core districts towards coopting weak supporters (Kasara, 2007, Corstrange, 2016). Despite that the pattern of distribution in Ramadan aligns with the second explanation, this is not true at all times. As I demonstrate in the supplementary materials, there are times when distribution defies this pattern (i.e. before elections) and when distribution is not as politically rewarding for the incumbent.[27] Since the political function and returns of government distribution are not constant over time, then we could expect the targeting criteria and the profile of beneficiaries to change in different times. This calls for taking time more seriously in analyzing patterns of distribution in autocracies. Even more, it suggests that focusing on the level of overall distribution - and ignoring its temporal allocation - might lead to an

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[27]The relevant analyses are presented in Appendix F, Appendix H, and Appendix E.

incomplete understanding of economic distribution as a strategy for political survival.

While this study focuses on distribution as the main outcome, it takes distribution as one manifestation of government responsiveness to citizens' economic concerns. In Appendix C, I report that Ramadan is *also* associated with more campaigns by local bureaucracies to monitor the markets and more frequent visits to the markets by high-profile public officials in areas with more political threats. Across all these outcomes, the interaction between collective action threats and the religious environment proves to be critical for government responsiveness. Ramadan fosters political accountability and responsiveness in places where collective action threats are high. However, the roles of the religious environment and collective action threats remain largely overlooked in the political accountability and policy responsiveness literature. In an important contribution, Cleary (2007) shows that non-electoral participation is a better predictor of government responsiveness than electoral competition in autocratic Mexico. His work casts serious doubts on the perception of elections as a cure-all for governance. In contexts where elections are less democratic, threats of collective action can impose more serious political pressures on the government. The religious environment can add to the scale of these threats. This is particularly true in Egypt, where Friday mass protests contributed to the ouster of two presidents in 2010 and 2013. It is, thus, unsurprising that the threat of collective action is a consistently effective catalyst for government responsiveness in Ramadan.

Note that the presence of political motives behind these campaigns does not contradict the idea that public officials might themselves be religious and sincerely following Ramadan's charitable norms. Yet, these religious incentives are not enough to overcome budget constraints. The government still needs to make allocation decisions on who gets their "charity". This is when political incentives become relevant.

Finally, it is critical to underline the scope of this study. The effect of Ramadan on government responsiveness and distributive politics is documented across the Muslim World. And, while this paper develops a theoretical explanation for patterns of distribution in Egypt, similar rationales might govern the politics of Ramadan in other Muslim majority countries. Future research can explore these religious patterns of distribution in other contexts. Moreover, religious seasons are not particular

to Muslim societies. In religious Christian societies, Christmas might perform a similar role to Ramadan. Politicians' behavior in religiously diverse societies could be even more complicated, having to balance support among different religious groups. These are fruitful areas for future research.

6   Conclusion

The question of *who gets what* is at the heart of distributive politics, but it can be better studied by also asking *when*. Timing contributes to the meaning of government actions, their relevance to the public, and the types of threats they are positioned to tackle. Ramadan introduces structural changes to the religious environment that increase the visibility of the incumbent's distributive policies, add religious meaning to them, and amplify the costs of overlooking citizens' economic concerns. As the evidence presented here indicates, this leads to increasing distribution in Ramadan, particularly towards less supportive and more threatening constituencies, which serves to enhance the incumbent's reputation and coopt potential opponents. Yet, at a deeper level, this study illustrates the critical roles of time and the religious environment in shaping distributive policies and government responsiveness. The two factors require more attention in the study of distributive politics and governance.

It is rather difficult to evaluate whether Ramadan's effects are generally welfare-enhancing. On one hand, distribution in religious seasons might be a cheaper alternative for autocrats to win the hearts and minds of their populations without sponsoring bigger structural reforms to the state's distributive apparatus. On the other hand, given the weakness of political accountability mechanisms in autocracies, it is unlikely that overall redistribution would be higher -or that structural reforms to the distributive machine would be adopted- in the absence of the pressures amalgamating in Ramadan. If so, then Ramadan might -at the least- prevent citizens' economic welfare from dropping. Besides that, Ramadan's norms and rituals facilitate the working of welfare-enhancing mechanisms. Ramadan enables citizens to reap more benefits from their electoral defiance and collective actions and extract more resources from the state. So, even if we cannot assess whether the overall economic provision would be lower without Ramadan, there is evidence that the

religious season induces government accountability and responsiveness to citizens' economic concerns.

Similarly, the normative implications of Ramadan's distributive politics are unclear. To one end, Ramadan provides a natural opportunity for citizens to extract more resources from their governments. Incumbents in religious societies might find it risky to ignore salient religious messages adhered to by the vast majority of their subjects. Hence, these religious norms provide citizens with leverage over their rulers, even if occasionally. One can argue that this is good for governance, particularly when alternative accountability mechanisms are weak. At the other end, these seasonal forms of distribution are often framed as "gifts", "charity", and "gestures of the state's generosity", rather than citizens' rights. I have argued that this framing is integral to the political functioning of Ramadan's benefits. It is also its serious normative flaw. These seasonal gifts promote citizens' dependency on the whims of their governments, rather than emphasizing their entitlement to these benefits. They turn rights into favors. Future research can enrich our understanding of this area by exploring how citizens react to the governmental provision of material benefits differently pending on their framing and timing.

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Supplementary Materials

Appendix A   Alternative Explanations

There are two possible alternative explanations for Ramadan's distributive campaigns and their spatial allocation. First, the government might capitalize on citizens' propensity for consumption in Ramadan to increase their sales of goods produced by the public sector and generate revenues. Not all Ramadan's campaigns offer in-kind transfers free of charge, and some sell goods at discounted prices. Some of these goods are produced by public sector companies. These producers enjoy privileges that bring their costs down and enable them to maintain a profit margin, even after lowering their prices. Boosting the supply of discounted goods, thus, might be a profit-seeking strategy to capitalize on the commercial aspect of the religious season. Although this explanation would not account for targeting areas with low electoral support or high threat of collective action, it could explain targeting more developed areas. I test this possibility by recoding the outcome to focus only on campaigns offering free goods. Unlike subsidized goods, there is no profit to be sought from distributing free goods. So, they should be directed towards less developed municipalities. Figure 1 plots the marginal effects of Ramadan's season by socioeconomic conditions, after redefining the outcome to include only the distribution of free goods. In accordance with the main results, campaigns offering free goods are more likely to target areas with higher levels of development. This undermines the possibility that the results are driven by targeting discounted goods towards economically developed areas to generate revenues.

Figure 1: The Marginal Effects of Pre-Ramadan (Left) and Ramadan (Right) Indicators on the Incidence Ratio of Distribution of Free Goods
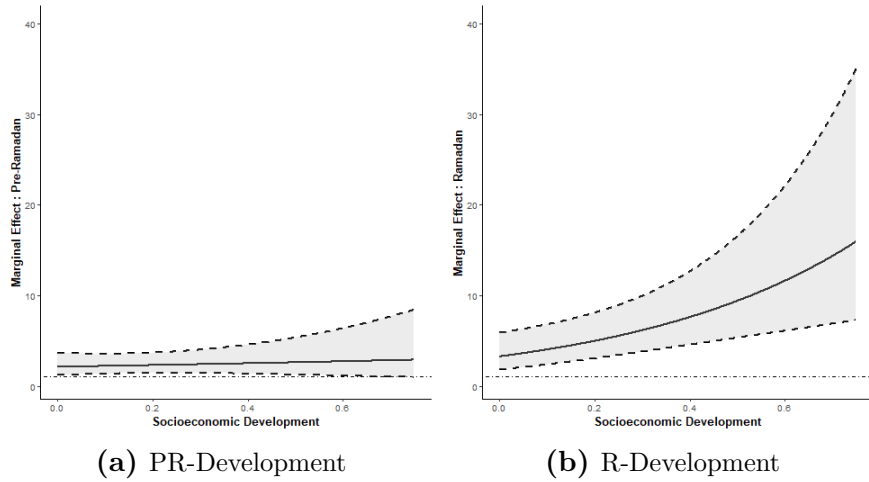
(a) PR-Development

(b) R-Development

Note: The plotted line refers to the marginal effects of Ramadan (left) and the preceding month (right) on incidence rate ratio at different levels of the moderating variable. Confidence intervals are estimated at the 95 percent level.

Alternatively, more resources might be directed towards municipalities with more capable bureaucracies. During the period of the study, local governments in Egypt are appointed, not elected, and so they behave as a bureaucracy. To avoid the misallocation of resources, the central government might direct more resources to municipalities with more efficient bureaucracies. It is also possible that more efficient local governments might have a bargaining advantage and are better positioned to extract more resources from the central government. This hypothesis could explain why developed municipalities receive more campaigns. However, it contradicts the evidence that distribution is higher in areas with low electoral support and a higher threat of collective action. Efficient local governments are expected to deliver higher turnout rates and contain any political unrest (Blaydes, 2010).

Besides that, the empirical evidence does not support this possibility. I test this hypothesis by employing a measure of local governments' bureaucratic capacity based on the number of infrastructure fixes (water, electricity, roads, gas pipes, sewage, and other public facilities) conducted by the local government in the past six months. The choice of a six-month period attempts at maintaining a balance between relative stability in performance and accounting for short-term fluctuations in performance due to bureaucratic turnover or seasonal factors. Maintaining local

infrastructure is one of the key functions of municipalities. It is also an indicator of the resources available to local governments to perform their primary functions. Thus, I expect more efficient and capable local governments to be more active in solving the key problems under their jurisdiction.

Local governments announce maintenance work conducted on local infrastructure on a semi-daily basis, which is communicated to the public via their social media accounts. This information was collected and aggregated following the same data collection process of the main outcome. I follow the same estimation procedures described and employed in the main analysis to test the moderating role for bureaucratic capacity by interacting its measure with the indicators for Ramadan's season. The results plotted in Figure 2 strongly indicate that there is no moderating role for bureaucratic capacity.

Figure 2: The Marginal Effects of Pre-Ramadan (Left) and Ramadan (Right) Indicators on the Incidence Ratio of Distributive Campaigns by Bureaucratic Capacity

(a) PR-Bureaucratic Capacity   **(b)** R-Bureaucratic Capacity

Note: The plotted line refers to the marginal effects of Ramadan (left) and the preceding month (right) on incidence rate ratio at different levels of the moderating variable. Confidence intervals are estimated at the 95 percent level.
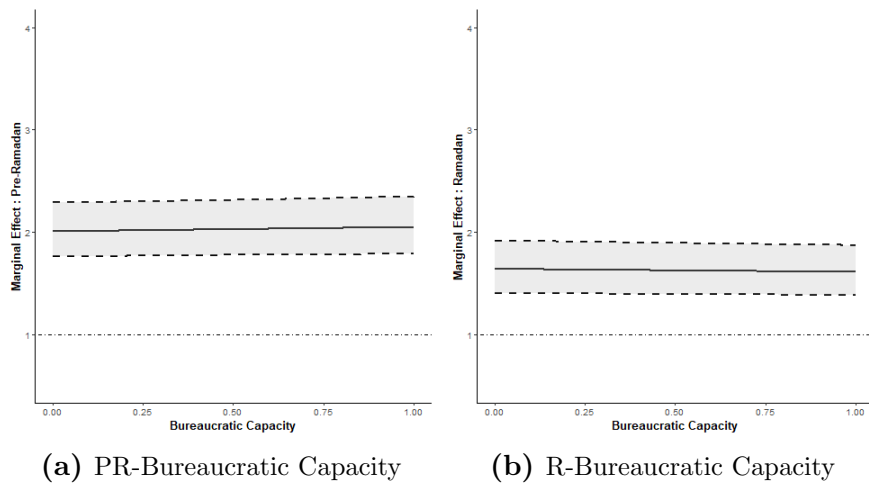
Appendix B   Robustness Checks

2.1   Measurement

The operationalization of the outcome variable assumes that government announcements about distributive campaigns are correlated with their actual number on the ground, or at least reflect what local governments want to signal to the public about their distributive activities. This raises two concerns. First, the government might signal their distributive efforts at the local level through other channels, most notably parties affiliated with the government. To check whether including these additional announcements made by the incumbent's party would change our results, I collect reports about distributive campaigns by the Nation's Future Party (NFP), which is the main party affiliated with the incumbent, from their official social media accounts. I follow the same data collection procedures described earlier. The modified outcome is the total number of publicly reported distributive campaigns by local governments and the incumbent's party. As shown below, replicating the main analysis with the modified outcome keeps the conclusions unchanged. The only exception is our finding regarding the moderating role of electoral support.

Table 1: Poisson Regression Estimates of Ramadan's Effects - Extended Definition of the Outcome

	(1)	(2)
Pre-Ramadan	0.64 (1.893)***	0.69 (1.989)***
	(0.15)	(0.15)
Ramadan	0.50 (1.651)*	0.55 (1.738)**
	(0.19)	(0.20)
Electoral Month		0.25 (1.284)$^+$
		(0.14)
Support		-3.4 (0.033)
		(3.4)
Development		-0.27 (0.764)
		(0.79)
Col. Action		-0.22 (0.803)
		(0.17)
Observations	657,837	600,872

Note: Incidence Rate Ratios are reported in parentheses. Standard errors in parentheses *below* the coefficients are clustered for municipalities and years. The second model contains all the controls described in Section 4, but only controls with theoretical relevance are displayed.

$^+$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 3: The Marginal Effects of Pre-Ramadan (Left) and Ramadan (Right) Indicators on the Incidence Ratio of Distributive Campaigns by Moderating Variables

(a) PR-Electoral Support

(b) R-Electoral Support

(c) PR-Economic Development

(d) R-Economic Development

(e) PR-Economic Development

(f) R- Collective Action
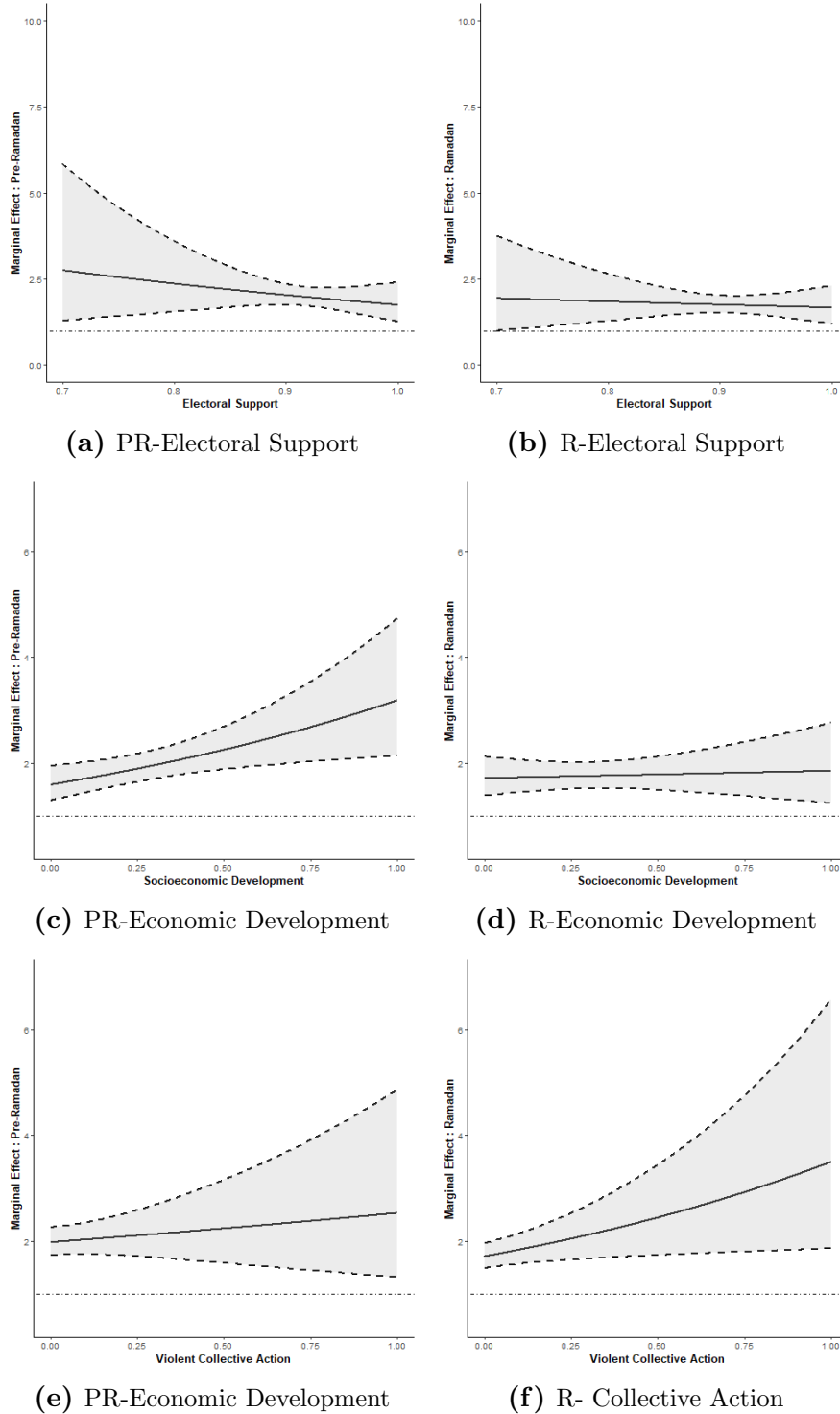
Note: The plotted line refers to the marginal effects of Ramadan (left) and the preceding month (right) on incidence rate ratio at different levels of the moderating variable. All models contain municipality and year fixed effects. Confidence intervals are estimated at the 95 percent level.

The second issue is regarding whether these announcements by local governments match distributive patterns on the ground. Unfortunately, due to the lack of bureaucratic records of the locations and timings of these campaigns, I cannot fully evaluate the strength of this association. Yet, in the years 2018 and 2019, the government provided the precise locations of temporary markets opened exclusively for Ramadan's season. These are *immobile* outlets offering subsidized goods to the public. I use the number of these outlets as an outcome to check whether they are governed by the same political rationale behind the distributive campaigns. I estimate an OLS regression equation with the moderating variables as the main predictors of interest. The model also controls for the log of the population and the turnout rate in the last presidential election. It includes year and governorate fixed effects.[28]

Figure 4 presents the estimated coefficients from the analysis. The results show that the government is more likely to place Ramadan's subsidized markets in more economically developed and politically contentious areas (the coefficients on both predictors are statistically significant). However, the allocation of these markets does not depend on the incumbent's vote share. Interestingly though, it depends on the turnout rate in the last presidential elections with electorally engaged municipalities receiving fewer Ramadan markets. Croke et al. (2016) argue that electoral disengagement in autocratic elections is a means to delegitimize the elections and signal discontent with the regime. Elections perform critical functions to authoritarian survival: signaling the incumbent's invincibility, limiting defections among the ruling coalition, discouraging opposition, revealing voters' preferences, and creating a democratic facade to maintain domestic and international legitimacy (Magaloni, 2006, Blaydes, 2010, Svolik, 2012, Mesquita et al., 2004, Levitsky and Way, 2002). Failing to attain these electoral goals can trigger serious political threats. Thus, it is possible that diverting resources away from electorally engaged municipalities is a means to contain potential threats in Ramadan. This finding remains in line with our theoretical predictions that distribution in Ramadan is skewed against those who are most supportive and invested in the regime. Overall, these conclusions suggest that the results obtained from our data match the patterns obtained from measuring distribution in Ramadan using a precise bureaucratic record. This adds

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[28]Instead of municipality fixed effects, I employ governorate fixed effects because the main predictor variables - except for collective action- are time-invariant after 2018.

to the reliability of our findings and the robustness of the measurement strategy.

Figure 4: OLS Analysis of Determinants of Immobile Ramadan Markets (2018-2019)
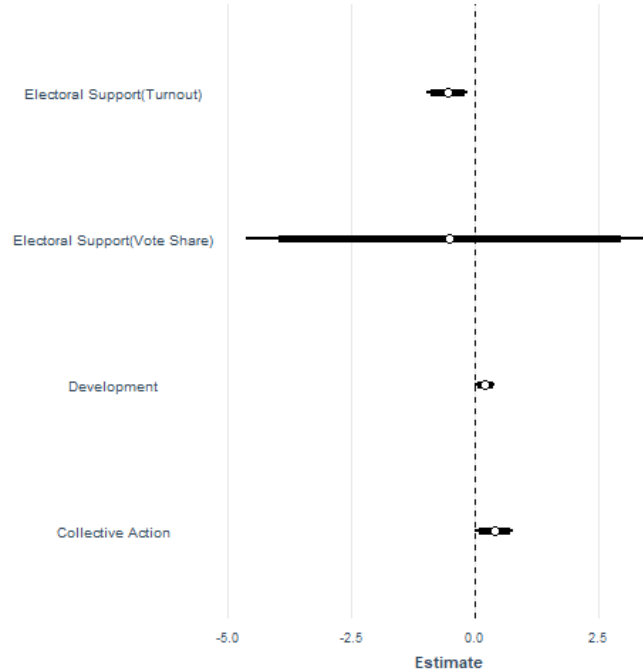
Note: The outcome is the number of immobile markets in Ramadan season. The model contains fixed effects for years and governorates. Standard errors are clustered for governorates. Confidence intervals are at 90 and 95 percent.

Concerns over measurement might also be related to how data from various sources are matched. Variables come from different datasets and might be measured at different points in time. Some administrative boundaries have changed over time. In these cases, I use the information about the districts within municipalities to construct relevant variables as accurately as possible. When this is not feasible, I employ values of the former administrative unit of a given municipality as a proxy. This raises questions on whether these procedures introduce any bias into the findings. I test this by excluding municipalities where there is a mismatch in measuring any of the key variables. I then replicate the analysis and provide the results in the Table 2. The findings remain robust after excluding imperfectly matched municipalities.

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Table 2: Poisson Regression Estimates of Ramadan's Effects - Perfectly Matched Municipalities

	(1)	(2)
Pre-Ramadan	0.648 (1.912)***	0.651 (1.917)***
	(0.144)	(0.154)
Ramadan	0.494 (1.639)***	0.468 (1.597)**
	(0.145)	(0.172)
Electoral Month		0.313*
		(0.147)
Support		3.9 (49.388)
		(4.46)
Development		-0.384 (0.681)
		(0.627)
Col. Action		0.015 (1.015)
		(0.132)
Observations	574,285	543,565

Note: Incidence Rate Ratios are reported in parentheses. Standard errors in parentheses *below* the coefficients are clustered for municipalities and years. The second model contains all the controls described in Section 4, but only controls with theoretical relevance are displayed.

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 5: The Marginal Effects of Pre-Ramadan (Left) and Ramadan (Right) Indicators on the Incidence Ratio of Distributive Campaigns by Moderating Variables - Perfectly Matched Municipalities
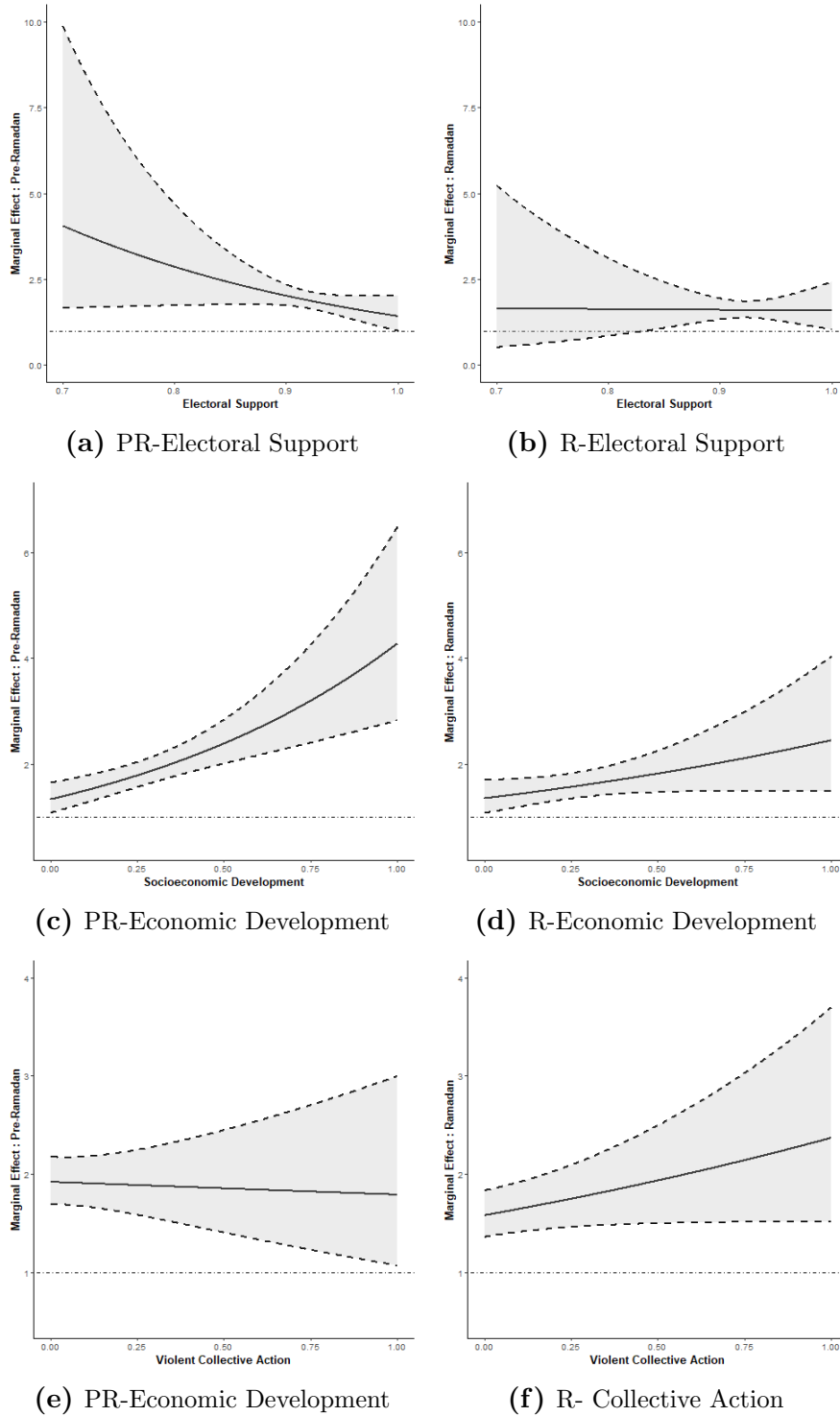
(a) PR-Electoral Support

(b) R-Electoral Support

(c) PR-Economic Development

(d) R-Economic Development

(e) PR-Economic Development

(f) R- Collective Action

Note: The plotted line refers to the marginal effects of Ramadan (left) and the preceding month (right) on incidence rate ratio at different levels of the moderating variable. All models contain municipality and year fixed effects. Confidence intervals are estimated at the 95 percent level.

2.2 Model Specification

One potential issue is that our results might be affected by seasonality. To test this possibility, I include month fixed effects (in addition to year and municipality fixed effects) into all models and redo the analysis. Adding further fixed effects comes at a cost as it limits the variation leveraged in the analysis. But we still observe that the main patterns found in the main analysis hold.

Table 3: Poisson Regression Estimates of Ramadan's Effects -Month FE

	(1)	(2)
Pre-Ramadan	1.06 (2.886)***	1.02 (2.779)***
	(0.161)	(0.166)
Ramadan	1.14 (3.125)***	1.09 (2.973)***
	(0.187)	(0.213)
Electoral Month		0.075 (1.077)
		(0.148)
Support		2.48 (11.959)
		(3.77)
Development		-0.322 (0.725)
		(0.693)
Col. Action		-0.207 (0.813)
		(0.171)
Observations	646,808	589,945

Note: Incidence Rate Ratios are reported in parentheses. Standard errors in parentheses *below* the coefficients are clustered for municipalities and years. The second model contains all the controls described in Section 4, but only controls with theoretical relevance are displayed.

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4: Poisson Regression Estimates - Ramadan's Effects by Municipality Characteristics - Month FE

	(1)	(2)	(3)
Pre-Ramadan	3.34 (28.083)	0.773 (2.167)***	1.01 (2.748)***
	(2.17)	(0.195)	(0.161)
Ramadan	2.08 (8.020)	0.916 (2.499)***	1.07 (2.913)***
	(2.81)	(0.182)	(0.202)
Pre-Ramadan x Support	-2.54 (0.079)		
	(2.26)		
Ramadan x Support	-1.1 (0.333)		
	(2.96)		
Pre-Ramadan x Development		0.752 (2.122)**	
		(0.374)	
Ramadan x Development		0.454 (1.574)*	
		(0.260)	
Pre-Ramadan x Col. Action			0.254 (1.289)
			(0.301)
Ramadan x Col. Action			0.554 (1.740)*
			(0.308)
Observations	589,945	589,945	589,945

Note: Incidence Rate Ratios are reported in parentheses. All models contain municipalities and year fixed effects. Standard errors in parentheses below the coefficients are clustered for municipalities and years. All models include all the controls specified in Section 4, but only controls with theoretical relevance are displayed. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

An alternative issue is that employing municipality fixed effects limits the sources of variation to learn from. Relaxing that modeling choice could allow us to exploit further variation between municipalities. So, I replicate the main analysis with governorate -instead of municipality- fixed effects and find that our conclusion remains intact.

Table 5: Poisson Regression Estimates of Ramadan's Effects - Governorate FE

	(1)	(2)
Pre-Ramadan	0.602 (1.827)***	0.609 (1.839)***
	(0.134)	(0.114)
Ramadan	0.437 (1.548)**	0.462 (1.588) **
	(0.150)	(0.150)
Electoral Month		0.256 (1.292)$^{+}$
		(0.144)
Support		3.21 (24.884)
		(2.57)
Development		0.365 (1.440)
		(0.347)
Col. Action		-0.350 (0.704)$^{+}$
		(0.211)
Observations	709,992	644,290

Note: Incidence Rate Ratios are reported in parentheses. Standard errors in parentheses *below* the coefficients are clustered for governorates and years. The second model contains all the controls described in Section 4, but only controls with theoretical relevance are displayed.

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6: Poisson Regression Estimates - Ramadan's Effects by Municipality Characteristics- Governorate FE

	(1)	(2)	(3)
Pre-Ramadan	4.59 (98.022)*	0.265 (1.303)	0.601 (1.823)***
	(2.01)	(0.182)	(0.111)
Ramadan	2.24 (9.359)	0.283 (1.327)*	0.441 (1.555)**
	(3.5)	(0.144)	(0.145)
Pre-Ramadan x Support	-4.34 (0.013)*		
	(2.15)		
Ramadan x Support	-1.93 (0.145)		
	(3.74)		
Pre-Ramadan x Development		1.15 (3.172)*	
		(0.502)	
Ramadan x Development		0.652 (1.919)	
		(0.445)	
Pre-Ramadan x Col. Action			0.412 (1.510)+
			(0.231)
Ramadan x Col. Action			0.896 (2.450)***
			(0.259)
Observations	644,290	644,290	644,290

Note: Incidence Rate Ratios are reported in parentheses. All models contain governorate and year fixed effects. Standard errors in parentheses below the coefficients are clustered for governorate and years. All models include all the controls specified in Section 4, but only controls with theoretical relevance are displayed. $^+$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix C External Validity: Alternative Outcomes

One question is whether the argument posed in the paper can be extended to other outcomes that could also signal the government's seriousness in responding to economic concerns. In this section, I explore this possibility by taking anti-corruption and market monitoring campaigns and high-profile field visits by public officials as outcomes. First, I consider the number of market-monitoring campaigns as an outcome. These campaigns are predominantly composed of: arrests of private business owners engaged in illegal market transactions, visits by government auditors to assess compliance of private businesses to regulations, closure of businesses engaged in illegal activities, arrests of public officials engaged in corruption, destruction of

spoiled goods, and supervising vendors' adherence to pricing regulations. Daily reports about these government interventions are collected following the same procedures described in the main text. I identified 7625 reports of these campaigns during the period of the study. Anti-corruption campaigns can reflect on citizens' welfare by controlling prices and ensuring the quality of goods and services. They also signal to the public the government's seriousness in punishing immoral behaviors in markets and public administration. Using the same estimation procedures described in Section 4, I find that anti-corruption campaigns are not moderated by electoral support and economic development. However, municipalities with a higher threat of collective action receive more anti-corruption campaigns, as shown in column (3) of Table 7, in Ramadan's season relative to more peaceful constituencies.

I then consider the number of visits by high-profile officials to markets and streets as another outcome. High-profile officials could range from heads of municipalities to governors. Visits to markets signal officials' attention and responsiveness to citizens' economic problems. Although Ramadan is associated with fewer visits by officials, this seasonal decline is less likely in municipalities with higher socioeconomic development or collective action threats, as indicated in columns (2) and (3) of panel Table 8.

Therefore, government responsiveness in Ramadan is not limited to distributive campaigns. Although the moderating effects of the support/threat variables are not all statistically significant for different outcomes, there remains consistent evidence that anti-corruption campaigns and field visits in Ramadan's season are more likely to be observed in areas where political threats are higher. This adds to the external validity of the findings and generalizes government responsiveness in Ramadan beyond the direct distribution of economic benefits.

Table 7: Poisson Regression Estimates - Ramadan's Effects on Anti-Corruption Campaigns by Municipality Characteristics

	(1)	(2)	(3)
Pre-Ramadan	-0.149 (0.861) (1.47)	-0.021 (0.979) (0.096)	0.110 (1.116) (0.140)
Ramadan	0.069 (1.071) (2.04)	-0.098 (0.907) (0.185)	0.008 (1.008) (0.149)
Pre-Ramadan x Support	0.296 (1.345) (1.51)		
Ramadan x Support	-0.058 (0.944) (2.15)		
Pre-Ramadan x Development		0.383 (1.467) (0.314)	
Ramadan x Development		0.317 (1.373) (0.290)	
Pre-Ramadan x Col. Action			0.198 (1.219)** (0.067)
Ramadan x Col. Action			0.249 (1.283)** (0.095)
Observations	598,156	598,156	598,156

Note: Incidence Rate Ratios are reported in parentheses. All models contain municipalities and year fixed effects. Standard errors in parentheses below the coefficients are clustered for municipalities and years. All models include all the controls specified in Section 4, but only controls with theoretical relevance are displayed. $^+$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 8: Poisson Regression Estimates - Ramadan's Effects on High Profile Field Visits by Municipality Characteristics

	(1)	(2)	(3)
Pre-Ramadan	0.991 (2.695) (0.928)	0.039 (1.039) (0.078)	0.089 (1.093)* (0.038)
Ramadan	0.878 (2.406) (1.21)	-0.517 (0.596)*** (0.106)	-0.271 (0.763)** (0.087)
Pre-Ramadan x Support	-0.990 (0.371) (1)		
Ramadan x Support	-1.25 (0.286) (1.35)		
Pre-Ramadan x Development		0.149 (1.161) (0.250)	
Ramadan x Development		0.636 (1.889)** (0.194)	
Pre-Ramadan x Col. Action			-0.061 (0.941) (0.066)
Ramadan x Col. Action			0.236 (1.266)*** (0.046)
Observations	635,282	635,282	635,282

Note: Incidence Rate Ratios are reported in parentheses. All models contain municipalities and year fixed effects. Standard errors in parentheses below the coefficients are clustered for municipalities and years. All models include all the controls specified in Section 4, but only controls with theoretical relevance are displayed. $^+ p < 0.10$, $^* p < 0.05$, $^{**} p < 0.01$, $^{***} p < 0.001$

Appendix D   Causality

4.1   Description of the Reforms to the Energy Subsidy Program

The political events following the Egyptian mass uprising of 2011 exacerbated the Egyptian economy. Budget deficits grew from under 8 percent of GDP in 2010 to 14 percent in 2013. The government debt increased from 73 percent of GDP to 89 percent (James, 2015). Fuel and electricity subsidies constituted a large portion of government expenditure amounting to 22 percent of government expenditure or 6 percent of GDP in 2013 (Breisinger et al., 2019). After the election of 2014, the Egyptian government introduced a wide set of economic reforms to accelerate economic growth, cut the budget deficit, and attract international donors and investors.

Reforming the extensive energy subsidies program came at the top of these policies. The goal was to phase out all energy subsidies by 2021 including oil, gas, natural gas, LPG, and electricity.

I focus on the impact of the reforms to the electricity sector on Egyptian households. Not only that electricity constitutes the largest item on the energy bill of Egyptian households, but its cost of production -and so prices- are also dependent on the cost of other fuels which factor into its production process. So, it is strongly reflective of the overall impact of the reforms. I constrain the analysis to households and exclude commercial sectors. This is because households are more directly affected by the reforms and have fewer options to evade its costs. Commercial sectors, however, can transfer the costs of the price hikes to consumers by raising the prices of their services and goods.

For households, the pricing of electricity depends on the level of consumption. Consumers are divided into seven tiers. The price per kilowatt differs for every tier of consumption. The change in the prices with every fiscal year is also different for every tier. The table below provides the prices per kilowatt of electricity for household consumption for the seven consumption tiers for the fiscal years of the reform. Note that the fiscal year starts in July.

Table 9: The Price per Unit of Electricity for Household Consumption Tiers over Time

Year/Tier	1	2	3	4	5	6	7
2013/2014	5	12	13	19	29	53	67
2014/2015	7.5	14.5	16	24	34	60	74
2015/2016	7.5	14.5	16	39	39	68	78
2016/2017	11	19	21	42	55	95	95
2017/2018	13	22	27	55	75	125	135
2018/2019	22	30	36	70	90	135	145
2019/2020	30	40	50	82	100	140	145

4.2 Determining Municipalities' Exposure to the Reforms

Exposure to electricity price shocks depends on consumers' level of consumption before the execution of the reforms. Based on their consumption, consumers are divided into seven tiers as previously described. Ideally, to determine the exposure of a given municipality to the impact of the reforms, we would need the distribution of its consumers over these consumption tiers. However, such data are not publicly available. Instead, I approximate the exposure of municipalities following a set of steps to deduce the average consumption level - and so exposure- of the representative consumer in any given municipality.

The Egyptian Central Agency for Public Mobilization and Statistics releases an annual bulletin of electricity and energy statistics. The document provides the level of electricity consumption at the governorate level for urban and rural areas. This is the key data source I employ to determine the consumption rate of the representative household at the municipality level. First, I calculate the average consumption rate of urban and rural households at the governorate level. This is done by dividing the total electricity consumption by rural/urban households over the rural/urban population of the governorate. This yields the average consumption rate per rural/urban resident. I then multiply that value by the average rural/urban household size in the governorate (approximately 4 individuals per household). This gives us the average consumption per rural and urban household for different governorates. Subsequently, we can deduce the tier of rural and urban households at the governorate level. Note that the tiers of consumers are derived based on consumption and population data from 2013, before the implementation of the policy.

I then use this information to determine the average cost of a kilowatt of electricity at the municipality level. This is determined using the following formula:

$$C_m = P_{urban,m} C_{G|urban} + P_{rural,m} C_{G|rural} \tag{3}$$

where C_m is the average cost of a kilowatt for the representative consumer in a given municipality (m), $P_{urban,m}$ and $P_{rural,m}$ are the proportions of rural and urban households in a given municipality, $C_{G|urban}$ is the cost per KW for an urban household in governorate (g), and $C_{G|rural}$ is the cost per KW for a rural household in governorate (g). The cost per KW is determined based on the tier of the representative

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rural/urban consumer in the governorate.

Following these steps, we can approximate the average cost per kilowatt for a representative household in a municipality (m) in a governorate (G). This calculation is made for every year separately, but the tiers of the consumers are all based on consumption levels in 2013.

4.3 Robustness Checks

In this section, I conduct a set of robustness checks in line with the tests conducted earlier. Some tests are discarded for irrelevance or infeasibility.

4.3.1 Measurement

In the analysis below, I employ the extended definition of the treatment (using reports from local governments and NFP). The results conform to our main findings.

Table 10: Poisson Regression Estimates of Price Shocks and Ramadan - Extended Definition

	(1)	(2)
Price	-3.08 (0.046)	-3 (0.050)
	(1.96)	(1.94)
Pre-Ramadan x Price		0.267 (1.306)**
		(0.093)
Ramadan x Price		-0.002 (0.998)
		(0.093)
Observations	397,512	397,512

Note: Incidence Rate Ratios are reported in parentheses. Both models contain municipality and day of the year fixed effects, with standard errors in parentheses below the coefficients clustered at same levels. Both models contain all the controls described in the text. $^+$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4.3.2 Specification

I check the robustness of the findings on the impact of price shocks to the selected model specification by replicating the analysis using Poisson regression with gov-

ernorate fixed effects, instead of municipality FE . The results do not alter our conclusions.

Table 11: Poisson Regression Estimates of Price Shocks and Ramadan - Governorate FE

	(1)	(2)
Price	-2.87 (0.057)	-2.79 (0.062)
	(2.31)	(2.25)
Pre-Ramadan x Price		0.283 (1.327)***
		(0.079)
Ramadan x Price		0.012 (1.012)
		(0.110)
Observations	424,979	424,979

Note: Incidence Rate Ratios are reported in parentheses. Both models contain governorate and day of the year fixed effects, with standard errors in parentheses below the coefficients clustered at same levels. Both models contain all the controls described in the text. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4.3.3 Alternative Outcomes

The following two tables present results from replicating the analysis of the effect of price shocks in Ramadan on alternative outcomes: anti-corruption campaigns and market visits by public officials. As shown below, areas more exposed to price shocks receive more anti-corruption campaigns and officials' visits in Ramadan compared to those less affected by the price hikes. This suggests that the impact of price shocks in Ramadan extends to other outcomes related to government responsiveness to economic pressures besides distributive campaigns.

Table 12: Poisson Regression Regression Estimates of Price Shocks and Ramadan on Anti-Corruption Campaigns

	(1)	(2)
Price	3.61 (37.102)$^+$	3.68 (39.511)$^+$
	(2.08)	(2.1)
Pre-Ramadan x Price		0.129 (1.138)$^+$
		(0.072)
Ramadan x Price		-0.064 (0.938)
		(0.075)
Observations	516,333	516,333

Note: Incidence Rate Ratios are reported in parentheses. Both models contain municipality and day of the year fixed effects, with standard errors in parentheses below the coefficients clustered at same levels. Both models contain all the controls described in the text. $^+$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 13: Poisson Regression Regression Estimates of Price Shocks and Ramadan on Market Visits by Public Officials

	(1)	(2)
Price	-1.86 (0.156)**	-1.92 (0.147)**
	(0.594)	(0.655)
Pre-Ramadan x Price		0.045 (1.046)
		(0.051)
Ramadan x Price		0.187 (1.206)***
		(0.048)
Observations	619,076	619,076

Note: Incidence Rate Ratios are reported in parentheses. Both models contain municipality and day of the year fixed effects, with standard errors in parentheses below the coefficients clustered at same levels. Both models contain all the controls described in the text. $^+$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix E Causal Mechanisms

5.1 Robustness Checks

In this section, I check the robustness of the analysis of voters' reactions to distributive campaigns. The first check employs the number of campaigns in the last two weeks, instead of one week, as the main independent variable to check the sensitivity of the findings to measurement. As shown below, the results closely resemble those presented in the main analysis and so our general conclusions remain unchanged.

Table 14: OLS Analysis of Respondents' Reactions to Distribution in Ramadan - Two Weeks of Campaigns

	(1) Performance	(2) Econ. Cond.	(3) Trust	(4) Corruption	(5) Clientelism
Distribution	0.110	0.013	0.336*	-0.218	-0.588**
	(0.175)	(0.157)	(0.142)	(0.141)	(0.201)
R^2	0.30456	0.25238	0.26007	0.28538	0.35137
Observations	1,057	1,056	1,061	998	960

Note: All models include fixed effects for municipalities and controls for gender, age, age-squared, employment, labor force status, urban residency, and educational level. Standard errors in parentheses are clustered for municipalities. All outcomes are measured in standard deviations.

$^+$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 15: OLS Analysis of Respondents' Reactions to Distribution in Ramadan by Ideological Position - Two Weeks of Campaigns

	(1) Performance	(2) Econ. Cond.	(3) Trust	(4) Corruption	(5) Clientelism
Distribution	0.136	-0.101	0.174	0.093	-0.660**
	(0.180)	(0.169)	(0.150)	(0.128)	(0.201)
Islamist	-0.303***	-0.501***	-0.474***	0.373***	0.252**
	(0.085)	(0.131)	(0.088)	(0.104)	(0.088)
Distribution x Islamist	0.165	0.248[+]	0.211*	-0.287*	-0.312*
	(0.117)	(0.127)	(0.103)	(0.138)	(0.143)
R^2	0.35	0.314	0.34	0.34	0.37
Observations	910	910	910	881	863

Note: All models include fixed effects for municipalities and controls for gender, age, age-squared, employment, labor force status, urban residency, and educational level. Standard errors in parentheses are clustered for municipalities. All outcomes are measured in standard deviations.

[+] $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The second robustness changes the specification of the model to employ governorate -instead of municipality- fixed effects with standard errors clustered for governorates. To control for municipalities' characteristics, I include all the control and moderating variables used in the main analysis described in Equation 1. Again, my conclusions still hold.

Table 16: OLS Analysis of Respondents' Reactions to Distribution in Ramadan - Governorate FE

	(1) Performance	(2) Econ. Cond.	(3) Trust	(4) Corruption	(5) Clientelism
Distribution	0.014	0.078	0.129*	0.025	-0.175*
	(0.039)	(0.048)	(0.050)	(0.086)	(0.064)
R^2	0.12	0.12	0.14	0.18	0.1
Observations	1,049	1,048	1,053	990	952

Note: All models include fixed effects for governorates and controls for gender, age, age-squared, employment, labor force status, urban residency, and educational level. Standard errors in parentheses are clustered for governorates. All outcomes are measured in standard deviations.

[+] $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 17: OLS Analysis of Respondents' Reactions to Distribution in Ramadan by Ideological Position - Governorate FE

	(1) Performance	(2) Econ. Cond.	(3) Trust	(4) Corruption	(5) Clientelism
Distribution	-0.046	-0.084^{+}	0.095	0.067	-0.025
	(0.034)	(0.044)	(0.076)	(0.066)	(0.091)
Islamist	-0.354***	-0.606***	-0.547***	0.394***	0.337***
	(0.091)	(0.144)	(0.122)	(0.097)	(0.082)
Distribution x Islamist	0.359*	0.567***	0.342*	-0.403*	-0.599**
	(0.138)	(0.120)	(0.145)	(0.147)	(0.167)
R^2	0.17	0.2	0.2	0.23	0.12
Observations	903	903	903	874	856

Note: All models include fixed effects for governorates and controls for gender, age, age-squared, employment, labor force status, urban residency, and educational level. Standard errors in parentheses are clustered for governorates. All outcomes are measured in standard deviations.

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

5.2 Survey Questions

The Afrobarometer questions used for the analysis:

- Performance: How well or badly would you say the current government is handling the following matters, or haven't you heard enough to say? (managing the economy - improving the living standards of the poor - creating jobs - keeping prices down narrowing gaps between the rich and the poor - ensuring everyone has enough to eat)

- Economic Conditions:

  - Current evaluation: In general, how would you describe: The present economic condition of this country?

  - Retrospective evaluation: Looking back, how do you rate economic conditions in this country compared to twelve months ago?

  - Prospective evaluation: Looking ahead, do you expect economic conditions in this country to be better or worse in twelve months' time?

- Trust: How much do you trust each of the following, or haven't you heard enough about them to say? (The President - local government or council - political parties - police - army)

- How many of the following people do you think are involved in corruption, or haven't you heard enough about them to say? (government officials - local government councilors - police)

- Clientelism: In your opinion, how often do the following things occur in this country's elections: Voters are bribed?

- Islamist: The opinions of Islamic jurists and religious scholars differ with regard to their interpretations of certain issues in Islam. To what extent you agree or disagree with each of the following statements: The country is better off if religious people hold public positions in the state?

5.3 Effect of Distribution versus Distribution in Ramadan

One puzzle that emerges from our analysis is whether the observed effects pertain to distribution in Ramadan or distribution in general. Put differently, if we expect that distribution in Ramadan has special qualities (as theoretically suggested), then we might suspect that distribution in non-religious times to have different effects, if any. Unfortunately, we cannot evaluate this hypothesis with the same Afrobarometer data used in the analysis, since most of the data collection happened in Ramadan.

To address this, I rely on the fourth and fifth waves of the Arab Barometer surveys conducted in Egypt. The fieldwork of both surveys took place outside any religious seasons (in normal times). This enables us to test the effect of distribution in non-religious times on voters' perceptions of the incumbent. However, data limitations require making some modifications to the original analysis. The Arab Barometer data provide precise geolocations of respondents which allows for matching respondents with the level of distribution in their municipalities. But the date of interviews is not provided for this data. This means that we cannot construct time-variant measures of the number of distributive campaigns within a municipality. Instead, I use the total number of campaigns in the month before the starting date of the fieldwork as the main independent variable. The decision to extend

the period (instead of a week) covered is because of the relative rarity of distributive campaigns outside Ramadan and electoral seasons. This change provides us with more variation on the independent variable. Moreover, this limitation requires switching from the use of municipality fixed effects into governorate fixed effects and controlling for the municipalities' characteristics (using the same set of controls employed in Table 16), given that there is no variation within municipalities on the key independent variable.

Another important modification is related to the outcome variables. The Arab Barometer data do not contain similar questions to those used for the *Corruption* and *Clientelism* variables. So, the analysis would be limited to the three other variables. The construction of the variable *Econ. Conditions* is identical to that from the Afrobarometer. *Trust* is very close to that from the Afrobarometer data, however, it also includes trust in parliament and government. These last two items were missing from the Afrobarometer data, despite relevance. Finally, the *Performance* variable includes the evaluations of the government's performance in handling the economy, creating jobs, tackling inflation, and narrowing income gaps. Thus, it excludes evaluations on fighting hunger.

The analysis replicates Table 16 and Table 17. In Table 18, distribution has no significant effect on the outcomes. The most notable result here is that there is no effect on trust with a coefficient of almost zero and a negative sign. This contrasts our consistent finding on Ramadan's campaigns' positive effect on trust. In Table 19, the distribution variable is interacted with the (*Islamist*) variable which is a dummy variable capturing support for having religious individuals in public office. Interestingly, we still see a negative correlation between the Islamist variable and the outcomes, in line with our main findings. Yet, the interaction coefficients are small and statistically insignificant. This suggests that distribution - in general-does not have a particular effect on potential opponents or less secular individuals.

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Table 18: OLS Analysis of Respondents' Reactions to Distribution Outside Ramadan - Arab Barometer Data

	(1) Performance	(2) Econ. Cond.	(3) Trust
Distribution	-0.052	0.016	-0.022
	(0.038)	(0.045)	(0.034)
R^2	0.11	0.04	0.05
Observations	3,313	3,231	3,322

Note: All models include fixed effects for governorates and controls for gender, age, age-squared, employment, labor force status, urban residency, and educational level. Standard errors in parentheses are clustered for governorates. All outcomes are measured in standard deviations.

$^+$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 19: OLS Analysis of Respondents' Reactions to Distribution Outside Ramadan by Ideological Position - Arab Barometer Data

	(1) Performance	(2) Econ. Cond.	(3) Trust
Distribution	-0.085$^+$	-0.018	-0.023
	(0.047)	(0.040)	(0.034)
Islamist	-0.120**	-0.274***	-0.060
	(0.033)	(0.033)	(0.037)
Distribution x Islamist	0.038	0.051	-0.031
	(0.049)	(0.041)	(0.039)
R^2	0.13	0.06	0.05
Observations	3,016	2,938	3,021

Note: All models include fixed effects for governorates and controls for gender, age, age-squared, employment, labor force status, urban residency, and educational level. Standard errors in parentheses are clustered for governorates. All outcomes are measured in standard deviations.

$^+$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

This analysis suggests that distribution in non-religious times might not generate

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similar reactions from voters as that in Ramadan. Hence, it might be that timing the delivery of economic benefits *in Ramadan's season* -and not just mere distribution- that yields the political returns for the incumbent and enhances its reputation.

Appendix F   Distribution in Electoral Seasons

The paper's argument raises the possibility that distribution in electoral seasons might have a different function from that in Ramadan. The literature suggests that distribution could be a means to mobilize supporters in electoral times (Nichter, 2008, Stokes et al., 2013). In autocracies, electoral results reveal information about the distribution of political support for the incumbent, probing them to reward loyalists to create incentives for investment in the regime (Magaloni, 2006, Blaydes, 2010). Hence, while distribution in Ramadan can be a means to coopt threatening constituencies, the economic provision in electoral seasons might be aimed at rewarding loyalty.

To test this possibility, I interact the dummy variable for the electoral month with the moderating variables to understand who gets targeted for mobilization in electoral times by economic benefits. The models follow the same estimation procedures employed in the main analysis, while only replacing Ramadan's indicators with those of elections.

The results are presented in Table 20. Model (1) shows that more loyal districts are less likely to be targeted with economic benefits for mobilization in electoral seasons. This aligns with the pattern observed during Ramadan. In model (2), there is no evidence for a significant moderating role for economic development, suggesting that distribution in electoral seasons is less governed by the economic profile of voters.

However, the most notable difference between distribution in electoral and Ramadan's season is regarding the government's reaction to political contention. Political collective action is punished in electoral seasons and rewarded in Ramadan. This is intriguing, especially if we assume that the threat of collective action is not necessarily low in electoral seasons. One explanation of this is that the incumbent can employ alternative strategies to deal with collective action threats outside Ramadan

such as repression. Such a strategy would be costlier in Ramadan. This difference in government's responsiveness to collective action threats in both times suggests that the incumbent invests in maintaining its reputation of "goodness" more in Ramadan than other times when dealing with political threats. Cooptive strategies are more appealing in Ramadan, but repressive strategies are more credible options in electoral times. Altogether, this adds to the plausibility of the goodness-signaling function of distribution in Ramadan, which is unlikely to be compromised even in face of collective action threats.

Table 20: Poisson Regression Estimates - Elections' Effects on Distributive Campaigns

	(1)	(2)	(3)
Electoral Month	4.44 (84.931)*** (1.63)	0.132 (1.141) (0.211)	0.283 (1.327)** (0.135)
Electoral Month x Support	-4.54 (0.011)** (1.85)		
Electoral Month x Development		0.458 (1.580) (0.616)	
Electoral Month x Col. Action			-9.51 (0)*** (0.226)
Observations 589,945	589,945	589,945	

Note: Incidence Rate Ratios are reported in parentheses. All models contain municipalities and year fixed effects. Standard errors in parentheses below the coefficients are clustered for municipalities and years. All models include all the controls specified in Section 4, but only controls with theoretical relevance are displayed. $^+$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix G Framing Distribution

My argument suggests distribution in Ramadan reflects the government's intention to signal its desirable qualities (or goodness), capitalizing on the salient norms of the month. If that's the case, then we might expect that the government's announcements about its distributive efforts to frame them in moral and religious terms in Ramadan more than other times. I test this claim systematically by employing a dictionary-based approach to classify posts related to distribution based on their use of moral and religious vocabulary related to Ramadan's norms of charity and empathy. I first aggregate a list of the most frequent words used in the propor-

tion of posts discussing government distribution. Then, I construct a dictionary of words associated with Ramadan's religious norms of charity and empathy. Since the posts rely on relatively limited vocabulary, the dictionary contains 19 words related to Ramadan's norms such as: gift, generosity, greed, humanitarian, giving, Ramadan, holy, alms, charity, and blessings. The frame of a post is classified to be "moral/religious" if the post contains at least one word from the dictionary.

I expect posts about distribution in Ramadan's season to rely more on religious and moral vocabulary to emphasize the goodness of providers and their compliance with Ramadan's norms. And, since this signaling function of Ramadan is more needed among less supportive and more threatening constituencies, we should observe that the government invests more in using these religious/moral frames in Ramadan when communicating to citizens in those contexts. I test these predictions by regressing a dummy for whether a given distributive post uses a religious frame on the same set of predictors used in the main analysis and described in the text. The estimation uses OLS regression (linear probability model) with fixed effects for both municipalities and years. Note that this dataset contains only posts about distributive campaigns, so the analysis is at the post level.

The results presented in Table 21 reveal that announcements of distributive campaigns are more likely to use religious and moral frames in Ramadan. In model (1), Ramadan is positively associated with a 19 percent higher probability that a given distributive post would use a moral/religious frame. In models (2)-(5), I test whether this pattern is particular to certain municipalities. Interestingly, the association between Ramadan and the use of these religious frames is higher in places where support for the incumbent is weaker and the threat of collective action is higher. These observations align with my theoretical predictions. However, I do not find support for more use of religious framing during Ramadan in more developed areas.[29]

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[29]To probe the robustness of these findings, I try different configurations of the dictionary. For example, I remove words that are strongly associated with Ramadan itself. Yet, the conclusions remain unchanged.

Table 21: OLS Regression Estimates of Ramadan's Effects on Framing of Distributive Posts

	(1)	(2)	(3)	(4)
Ramadan	0.185***	1.76**	0.214***	0.182***
	(0.034)	(0.803)	(0.054)	(0.034)
Pre-Ramadan	-0.013	0.475	0.149	-0.008
	(0.055)	(1.25)	(0.094)	(0.057)
Ramadan x Support		-1.71*		
		(0.871)		
Pre-Ramadan x Support		-0.534		
		(1.38)		
Ramadan x Development			-0.101	
			(0.133)	
Pre-Ramadan x Development			-0.603***	
			(0.223)	
Ramadan x Col. Action				0.113**
				(0.056)
Pre-Ramadan x Col. Action				0.001
				(0.035)
Observations	4,187	4,187	4,187	4,187
R^2	0.23	0.23	0.23	0.23

Note: Both models contain fixed effects for municipalities and years. The analysis is done at the post-level. Standard errors in parentheses *below* the coefficients are clustered for municipalities.

[+] $p < 0.10$, [*] $p < 0.05$, [**] $p < 0.01$, [***] $p < 0.001$

This evidence underlines that distribution in Ramadan is not only quantitatively different, but it is also qualitatively distinct by the virtue of its association with salient religious and moral norms. Theoretically, I have argued that this religious nature of distribution in Ramadan creates an opportunity for political actors to frame their distributive efforts in de-politicized terms and capitalize on salient religious and moral norms to signal "goodness" and appeal to voters. Indeed, we see evidence that the incumbent relies more on religious framing in Ramadan, particularly when communicating to more threatening and less supportive constituencies. This credits the claim that distribution in Ramadan is motivated by the government's intent to signal its moral and religious qualities.

Appendix H   Distribution in Eid al-Adha

Eid al-Adha is a major Islamic occasion that coincides with the season of pilgrimage. Its celebration takes four days and starts about two months after the end of Ramadan. The religious message emphasized in Eid al-Adha is similar to that of Ramadan. It urges Muslims to expand their support for the poor. Financially capable Muslims are encouraged to sacrifice cattle and donate a portion of their meat to the poor. In that respect, Eid al-Adha raises the salience of charitable norms and poses the question of whether it might have the same consequences as Ramadan. Yet, despite the similarity in the content of the religious message emphasized in both seasons, there are key differences between the two religious occasions. First, Ramadan is a longer occasion than Eid. Second, giving in Eid is only encouraged, while Ramadan's norms are partly enforced through various religious obligations such as *zakat* and fasting. Third, mass religious congregations are widely popular and more frequent in Ramadan. Although Muslims are required to congregate for Eid al-Adha's prayer once a year, religious congregations during Eid are barely different from those in other times. These differences suggest that Eid al-Adha might have similar effects on government distribution to Ramadan, but at a lower magnitude. More importantly, we see no reason to expect municipalities benefiting from distribution in Eid to be different from those benefiting in Ramadan. This comes with one caveat. Although the religious message of both occasions is the same, the threat of collective action is higher in Ramadan due to the frequent congregations. Thus, distribution in Eid al-Adha provides a placebo test to understand how Ramadan's religious message incentivizes government distribution, *but without raising the threat of potential collective action.*

To understand distribution in Eid al-Adha, I estimate the effect of Eid al-Adha on distributive campaigns and test the role of the moderating variables. The procedure employs the same model specification described in Equation 1. The indicator for Eid al-Adha is a dummy variable with positive values for days coinciding with Eid al-Adha or the week before. The results presented below confirm that Eid al-Adha is associated with an increase in distributive campaigns. Similar to distribution in Ramadan, Eid al-Adha's campaigns are also more likely to target areas with weaker electoral support for the incumbent. However, they respond to the threat of collective action differently. More contentious places are *less likely* to receive distributive

campaigns in Eid al-Adha. Contrasting the profile of beneficiaries from distribution in Ramadan and Eid al-Adha helps us to unpack how Ramadan increases government distribution. The two occasions share a similar message, and so they both rationalize distribution. Yet, the religious rituals of Eid do not amplify the threat of collective action as they do in Ramadan. Thus, more politically contentious areas are not rewarded with distributive benefits in Eid as they are in Ramadan. This distinction suggests that raising the threat of collective action is one mechanism by which Ramadan creates incentives for government distribution.

Table 22: Poisson Regression Estimates of Eid al-Adha's Effects on Distributive Campaigns

	(1)	(2)	(3)	(4)
Eid	0.528 (1.695)*** (0.135)	4.6 (99.575)** (2.09)	0.566 (1.761)*** (0.134)	0.530 (1.699)*** (0.135)
Eid x Support		-4.43 (0.012)* (2.36)		
Eid x Development			-0.155 (0.857) (0.741)	
Eid x Col. Action				-7.15 (0.001)*** (0.139)
Observations	589,945	589,945	589,945	589,945

Note: Incidence Rate Ratios are reported in parentheses. All models contain fixed effects for municipalities and years. Standard errors in parentheses *below* the coefficients are clustered for municipalities and years. All models include all the controls specified in Section 4, but only controls with theoretical relevance are displayed.

[+] $p < 0.10$, [*] $p < 0.05$, [**] $p < 0.01$, [***] $p < 0.001$

Appendix I   Analyzing Lasting Campaigns

The main analysis does not account for the possibility that some distributive campaigns last for a period after they are launched. For example, the government might set up an outlet for subsidized goods and announces its opening on its social media account. If no subsequent reports about this outlet were posted, then it will enter the dataset as a one-day distributive campaign. This coding criterion serves the study in two ways. Theoretically, our interest lies in the timing of distributive policies. Focusing on the opening dates of outlets and the inauguration of distribu-

tive campaigns matches this theoretical interest and is more related to the signaling function of these efforts. Empirically, we have no good way of evaluating how long these campaigns last, because posts do not always contain information about the duration of campaigns.

Despite this data limitation, I reproduce the outcome variable to take into account the possibility of lasting campaigns by using the language of the post to determine the probable length of the campaign *when possible*. If a post includes the specific timeline of a campaign, then the outcome is modified to account for all the days on which the campaign is operating. When a post discusses the opening of an "outlet" or "exhibit" for goods, I assume that the facility is operating for a month. This assumption is based on the fact that many of these outlets are only temporary, which is particularly true for those outlets opened specifically for Ramadan.

After making these modifications, I replicate the main analysis presented in the paper for Ramadan's effects, their interaction with the moderators, and their interaction with exposure to price shocks. The results show that distribution remains higher in Ramadan's season. Distributive campaigns are also more numerous in Ramadan in more contentious municipalities. Although the signs on the rest of the interactions are in the theoretically predicted direction, the coefficients are not statistically significant. Yet, our core conclusions remain the same, even after we assume that some campaigns last for few days after being posted.

Table 23: Poisson Regression Estimates of Ramadan's Effects

	(1)	(2)
Pre-Ramadan	1.16 (3.186)***	0.656 (1.928)**
	(0.262)	(0.229)
Ramadan	1.56 (4.764)***	1.25 (3.493)***
	(0.176)	(0.121)
Electoral Month		0.230 (1.259)
		(0.282)
Support		0.911 (2.486)
		(2.69)
Development		-1.06 (0.347)
		(1.46)
Col. Action		0.242 (1.274)*
		(0.118)
Observations	646,808	589,945

Note: Incidence Rate Ratios are reported in parentheses. Standard errors in parentheses *below* the coefficients are clustered for municipalities and years. The second model contains all the controls described in Section 4, but only controls with theoretical relevance are displayed.

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 24: Poisson Regression Estimates - Ramadan's Effects by Municipality Characteristics

	(1)	(2)	(3)
Pre-Ramadan	3.52 (33.637)	0.444 (1.559)	0.668 (1.950)***
	(3.25)	(0.375)	(0.226)
Ramadan	3.28 (26.476)	1.11 (3.049)***	1.24 (3.461)***
	(2.44)	(0.184)	(0.119)
Pre-Ramadan x Turnout	-3.1 (0.045)		
	(3.55)		
Ramadan x Turnout	-2.2 (0.111)		
	(2.64)		
Pre-Ramadan x Development		0.763 (2.146)	
		(0.841)	
Ramadan x Development		0.495 (1.640)	
		(0.472)	
Pre-Ramadan x Col. Action			-0.297 (0.743)
			(0.274)
Ramadan x Col. Action			0.233 (1.262)*
			(0.140)
Observations	589,945	589,945	589,945

Note: Incidence Rate Ratios are reported in parentheses. All models contain municipalities and year fixed effects. Standard errors in parentheses below the coefficients are clustered for municipalities and years. All models include all the controls specified in Section 4, but only controls with theoretical relevance are displayed. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 25: Poisson Regression Estimates of Price Shocks and Ramadan

	(1)	(2)
Price	-2.67 (0.070)	-2.95 (0.052)
	(3.13)	(3.26)
Pre-Ramadan x Price		0.197 (1.218)
		(0.134)
Ramadan x Price		0.216 (1.241)
		(0.135)
Observations	476,212	476,212

Note: Incidence Rate Ratios are reported in parentheses. Both models contain municipality and day of the year fixed effects. Standard errors in parentheses below the coefficients are clustered for municipalities and day of the year. Both models contain the control variables used in earlier specifications and described in Section 4. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix J   Descriptive Statistics

Table 26: Descriptive Statistics of the Main Variables

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Median	Pctl(75)	Max
Distributive Campaigns	709,992	0.007	0.124	0.000	0.000	0.000	0.000	16.000
Distributive Campaigns (extended)	709,992	0.008	0.133	0.000	0.000	0.000	0.000	24.000
Pre-Ramadan	709,420	0.092	0.289	0.000	0.000	0.000	0.000	1.000
Ramadan	709,420	0.090	0.286	0.000	0.000	0.000	0.000	1.000
Electoral Month	709,420	0.075	0.263	0.000	0.000	0.000	0.000	1.000
Collective Action	709,420	0.046	0.427	0.000	0.000	0.000	0.000	23.000
Political Support	662,348	0.911	0.039	0.723	0.894	0.918	0.938	0.977
Econ. Development	703,347	0.317	0.228	0.000	0.140	0.267	0.407	1.000
Turnout	662,348	0.440	0.107	0.023	0.359	0.453	0.522	0.814
Log(Population)	684,103	11.414	1.506	3.784	10.733	11.714	12.484	13.976
Electricity Price	684,103	0.000	1.000	−1.290	−0.825	−0.237	0.597	4.107
Bureaucratic Capacity (Fixes No.)	652,153	28.413	34.296	0.000	4.000	17.000	43.000	420.000

Table 27: Descriptive Statistics of the Afrobarometer Variables

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Median	Pctl(75)	Max
Distribution (A Week)	1,075	0.147	0.600	0.000	0.000	0.000	0.000	5.000
Distribution (Two Weeks)	1,075	0.221	0.705	0.000	0.000	0.000	0.000	6.000
Female	1,163	0.501	0.500	0.000	0.000	1.000	1.000	1.000
Urban	1,163	0.457	0.498	0.000	0.000	0.000	1.000	1.000
Age	1,163	36.671	13.208	−1.000	25.000	35.000	48.000	81.000
Employed	1,154	0.530	0.499	0.000	0.000	1.000	1.000	1.000
Not in Labor Force	1,154	0.399	0.490	0.000	0.000	0.000	1.000	1.000
Education	1,163	2.682	1.630	1.000	1.000	2.000	4.000	5.000
Trust	1,158	0.011	0.715	−2.457	−0.342	0.104	0.526	1.478
Corruption	1,090	−0.011	0.828	−1.876	−0.400	0.040	0.525	2.505
Performance	1,153	0.003	0.718	−1.459	−0.411	0.019	0.446	2.405
Econ. Conditions	1,151	−0.006	0.881	−2.394	−0.432	0.223	0.553	1.522
Clientelism	1,047	0.000	1.000	−1.776	−0.514	−0.514	0.749	2.011

Appendix K Variables and Data Sources

11.1 Variables

- Distributive campaigns (outcome): No. of distributive campaigns in a given municipality-day.

- Socioeconomic development (moderator): A summative index of economic development composed of the percentage of the urban population, the percentage of the adult population with formal education, the percentage of buildings with access to electricity, the percentage of buildings with access to water, the percentage of buildings with access to sewage. The measure is standardized with a mean of 0 and a standard deviation of 1.

- Collective action (moderator): The number of violent protests and riots in the month before a day within a municipality.

- Political support (moderator): The vote share of President Abdel Fatah al-Sisi of all votes cast in the last presidential election (i.e. 2014 and 2018 presidential elections).

- Electricity price (moderator): A standardized measure of the price per kilowatt of electricity.

- Population (control): Log of the municipality's population in a given year.

- Turnout(control): The municipality's turnout rate in the last presidential election.

- Ramadan (Independent variable): A dummy variable for whether a day coincides with the Islamic month of Ramadan.

- Pre-Ramadan (Independent variable): A dummy variable for whether a day coincides with the month before the Islamic month of Ramadan.

- Electoral month (control): A dummy variable for whether a day coincides with the month of elections.

- Control variables (dummies) for the beginning of the fiscal year, Eid al-Adha and the week before it, the two months before and after elections, national holidays, Fridays, and Eid al-Fitr.

11.2   Data Sources

- Distributive campaigns: The data were obtained from the official Facebook pages of Egyptian municipalities and governorates following the procedures described in the main text.

- Turnout: The variable is the change in turnout rate in any given presidential election from the last presidential election. It is calculated using official electoral data provided by Egypt's Election Commission.

- Socioeconomic development: The variable is a summative index of the percentage of buildings with access to electricity, percentage of buildings with access to water, percentage of buildings with access to sewage, percentage of the adult population with formal education, and percentage of the urban population. The first three variables are obtained from the building censuses of 2006 and 2017. The last two variables are reported in Egypt's population censuses of 2006 and 2017. The data was collected and published by Egypt's Central Agency for Public Mobilization and Statistics (CAPMAS).

- Collective action: The data on violent protests were obtained from the Armed Conflict Location Event Data Project (ACLED).

- Electricity Price Shocks: Data on electricity consumption in Egyptian governorates were obtained from the Annual Bulletin of Electricity and Energy of 2013/2014, provided by CAPMAS. Data on the pricing of consumption tiers and price changes were obtained from the official announcements of the Egyptian Ministry of Electricity and Renewable Energy.

- Population size: The data were obtained from the Egyptian population censuses of 2006 and 2017.

Appendix L   Distributive Campaigns: Examples of Posts

The Facebook posts of distributive campaigns were extracted from the official pages of municipalities and governorates. I present below examples of these posts.

Example (1)

According to instructions by the Governor of Suhag and under the supervision of the president of Tema City and *Markaz*, Mr. Adli Abu Okil, 2000 boxes of food allocated to Tema City were distributed to local citizens at discounted prices in front of the local unit of Tema City and *Markaz*.

بناءا على توجيهات السيد الدكتور الوزير محافظ سوهاج وتحت إشراف السيد المحاسب الاستاذ عدلى ابو عقيل رئيس مركز ومدينة طما تم اليوم الخميس توزيع حصة مركز ومدينة طما من السلع الغذائيه بعدد الفين كرتونه وتم توزيعها على الأهالى بأسعار مخفضة وذلك أمام الوحدة المحليه لمركز ومدينة طما

Example (2)

As per the instructions of Mrs. Hala Said Abdelnabi, the deputy of the president of El-Tebin municipality, trucks providing meat and chicken at subsidized prices for locals were positioned in front of al-Bosta square.

بناءا علي توجيهات السيدة الاستاذه هالة سيد عبد النبي قائم بعمل رئيس حي التبين تم تواجد سيارات الحوم والفراخ امام ميدان البوسطة لبيع الحوم باسعار متناسبة للاهالى

Example (3)

In line with the efforts undertaken to deliver subsidized goods to citizens, the chair of al-Zaiton's municipality has coordinated with the Agency for National Service Projects to station a truck in the backstreets and in front of the municipality's building to serve citizens and employees, offer subsidized goods, and combat merchants' greed.

فى إطار الجهود المبذولة لتوصيل المواد الغذائية المدعمة للمواطنين قام رئيس حى الزينون بالتنسيق مع جهاز مشروعات الخدمة الوطنية باحضار سيارة فى الشوارع الخلفية و أمام مبنى الحى لخدمة المواطنين و الموظفين لشراء السلع المدعمة و محاربة جشع التجار

Example (4)

Engineer Amr Abdelaal (the governor's deputy), Engineer Mohamed Abdelgelil (General Secretary of Assyot's governorate), and Mr. Tag Abosadah (Chair of Abanob's city) participate in Friday's prayers in Ezbet Saed (village) and distribute 600 cartoons (of food) offered by the governorate, as well as, 150 kilos of meat presented by the directorate of the ministry of religious endowments in Assyot to help the people of Ezbet Saed.

المهندس عمرو عبد العال نائب المحافظ والمهندس محمد عبد الجليل سكرتير عام محافظة اسيوط والسيد تاج ابوسداح رئيس مركز ومدينة ابنوب يصلون الجمعة بعزبة سعيد ويقوموا بتوزيع ستمائة كرتونة مقدمة من المحافظة و مئة و خمسين كيلو لحوم مقدمة من مديرية الاوقاف باسيوط مساعدات لاهالى عزبة سعيد .....