Cash Transfers as a Response to COVID-19: Experimental Evidence from Kenya[*]

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Abstract

We deliver one month's average profit to a randomly selected group of female microenterprise owners in the Kenyan slum of Dandora, just preceding with the exponential growth of COVID-19 cases. Firm profit, inventory spending, and food expenditures all increase. The transfers simultaneously cause a re-opening of previously closed businesses. PPE spending and precautionary management practices increase to mitigate this effect, but only among those who perceive COVID-19 as a major health risk. Cash transfers can assist in economic stabilization during a pandemic, but the resulting increase in business activity requires policies to inform and encourage mitigation.

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1 Introduction

As the coronavirus pandemic spread around the world in 2020, countries instituted measures to stop the spread of the virus and replace lost income from shutdown orders and the broader economic contraction. One group at particular risk is small businesses. In addition to making up the majority of employment in many developing countries (Gollin, 2008), these firms tend to operate in "non-essential" sectors and rely heavily on face-to-face interactions, leaving them vulnerable due to the particular features of the COVID-19 shock (Alfaro et al., 2020). In response, short-term unconditional cash transfers have emerged as a critical tool to support the poor in developing countries. As of June 2020, 191 countries have initiated some form of cash transfers to combat the COVID-19 crisis (Gentilini et al., 2020). While intuitively appealing, empirical evidence on the effectiveness of these programs is nearly non-existent.[1]

In this paper, we implement a randomized controlled trial to study the benefits of a one-time unconditional cash transfer (UCT) to a particularly vulnerable group: female microenterprise owners in Kenyan slum of Dandora, on the outskirts of Nairobi. In our sample, average profit was about 2 USD per day in January, but fell to about 1 USD per day by May following the emergence of COVID-19 cases and subsequent government lockdowns in Kenya that began in March.[2]

We randomly divide these business owners into a treatment group that receives 5000 KES ($\approx$ 50 USD, equal to approximately 1 month of average profit in January 2020 among our sample) and a control group that receives 500

[1]The closest available evidence to our knowledge includes Banerjee et al. (2020b), who study how those enrolled in an existing universal basic income RCT in rural Kenya experience the COVID-19 crisis differently from those who were not enrolled. While an important study to understand how UBI buffers against shocks, the interpretation of such ongoing transfers is different than the one-time infusions being suggested as short-run stabilization policy. In a different vein, Bottan et al. (2020) study how the older individuals (around age 60) in Bolivia respond to additional cash delivered through the pension system.

[2]In addition to the aforementioned risk faced by microenterprise owners, both cross-country and Kenyan evidence points to the particular burden borne by women during this crisis (Alon et al., 2020a; Population Council, 2020). The well-studied link between household and business decisions implies that such negative businesses consequences will simultaneously impact household welfare. Recent studies of such gendered distortions in "normal" times include Hardy and Kagy (2018) and Bernhardt et al. (2019), while Jayachandran (2020) provides a review.

KES (≈ 5 USD) to cover mobile costs and time for participation. The ubiquity of mobile money – already a key aspect of informal social insurance networks (Jack and Suri, 2014) – allowed us to quickly deliver the treatment without any in-person meetings and before the rise of infections. While there were 700 cumulative cases in Kenya when we completed delivery of the transfers on May 12, there were 1,286 two weeks later (World Health Organization, 2020). In addition to our baseline in January 2020 from which we drew our sample, we also gathered data continuously from April through August as the coronavirus pandemic expanded along with corresponding policy responses.

Our results show the economic promise of such a policy, but also suggest some caution is warranted as businesses respond to the treatment by operating more intensively. In terms of the economic benefits, we find that business profits increase by 38 percent relative to the control. This restores approximately one-third of the decline in profit we observe between January and May.[3] Household food expenditures also rise by 7 percent. Some of the gains are re-invested in the business, as we see a large rise in inventory spending among treated firms.

At the same time, however, we find little evidence that the treatment generates a "shut down as a luxury" effect that has been raised in both policy and the popular press (e.g. Glassman et al., 2020). On average, treatment firms are 5 percentage points more likely to be open and remain open an additional half hour per day. This average increase is driven by a massive re-opening of firms that had temporarily closed due to COVID-19. A firm that had temporarily closed was 65 percentage points more likely to be open if treated. Thus, there seems to be a non-trivial tradeoff between economic and public health benefits via reduced interpersonal interaction that must be considered when designing policy among the poor.[4]

[3] This is in addition to the direct increase in resources from the transfer itself

[4] We do not attempt to quantify the optimal tradeoff of these forces within the context of our RCT, as our inability to work on the ground in Dandora eliminated our ability to collect the relevant health and interaction metrics. These moments would be required to credibly estimate the properly-modified SIR model that would be required to study the overall welfare change induced by this tradeoff. See Alvarez et al.

We find that this potential public health risk may be mitigated by an increase in spending on PPE and adoption of protective measures within the treatment group. Treatment caused PPE spending to increase by more than 22 percent on average, and caused an index of mitigation practices (such as hand washing and mask wearing) to increase by 0.24 standard deviations. This suggests that treated entrepreneurs were proactive in taking measures to protect themselves and their customers. However, these effects were not universal. Owners who believed the coronavirus no more deadly than the seasonal flu were significantly less likely to engage in these mitigation measures, and we see no change in their mitigation behavior relative to control. This suggests a potentially important complementarity between cash transfers and information campaigns such as Banerjee et al. (2020a) to minimize health risk without stifling the social insurance benefits of cash transfers.

2 Economic Impact of COVID-19 in Dandora

Dandora is a dense, urban slum in Nairobi, with 150,000 residents. It is the site of a sprawling 30 acre trash dump that services all of Nairobi despite being declared full in 2001, and its pollution plays a major role in poor health and respiratory issues among its residents (Kimani, 2007). This, along with the density of Dandora and surrounding slums, lead to substantial anxiety that COVID-19 would spread quickly among its residents. In response to the first confirmed case in Kenya on March 13, 2020, the government instituted a series of measures designed to limit personal interactions.[5] As in many countries, density played an important role in spread – as of the government's most recent update, 59 percent of all cases were in Nairobi county (Kenya Ministry of Health, 2020).

(forthcoming) and Acemoglu et al. (2020) among many others for theoretical and quantitative evaluations of such tradeoffs in rich countries, and Alon et al. (2020b) in developing countries.

[5]On March 15, a curfew and travel ban were simultaneously announced. All bars and restaurants, net of takeaway, on March 22. On April 6, movement into and out of Nairobi was suspended for 21 days.

Our sample focuses on microenterprises operated by women in Dandora. In addition to making up the majority of small businesses in Dandora, qualitative survey evidence shows women bearing the brunt of the economic impact in Dandora and other slums surrounding Nairobi (Population Council, 2020). Combined with the fact that these female-run microenterprises are substantially less profitable than those run by men (Brooks et al., 2018), this suggests a particular vulnerability to such an economic downturn among Dandoran women. Moreover

2.1 Economic Contraction

The COVID-19 shock and associated government response was felt across Kenya, including Dandora. Figure 1 detail the time series of profit observed in our control group, along with what we observed four years earlier in April 2016 among a similar set of female-run microenterprises in Dandora (Brooks et al., 2018). We find that average profit declines by 47 percent between January and late April 2020. This is 57 percent lower than what we observed four years earlier in April 2016 despite the fact that profit in late 2014 and 2019 seem quite similar. Thus, these Dandoran microenterprise owners are not immune to the substantial downturn induced by the combination of COVID-19 uncertainty and government-imposed restrictions on movement and trade.

The results are consistent with the expectations and qualitative responses observed at baseline. Eighteen percent of our sample had closed their businesses between January and May 2020 at least temporarily, while 47 percent expected the COVID-19 crisis to shut down their business at some point at least temporarily.

2.2 Policy Response and (Lack of) Reach into Dandora

To help mitigate the oncoming health and economic crises induced by COVID-19, the Kenyan government simultaneously implemented a number of policies designed to partially stabilize incomes and reduce health risk. This included tax relief to the poorest earners and a reduction of income tax in mid-March. As of April 1, the government suspended of listing of negative credit information with the Credit Reference Bureau of any person or micro or small business with an overdue loan, along with a decrease in the VAT rate from 16 to 14 percent.

These policies primarily cater to the formal economy, providing little relief to many of the most vulnerable microenterprises and households. In our baseline survey, only 17 percent of business owners had received any government relief by May 2020, a function of the limited connection to the formal economy. Few, for example, utilize the formal loan market or pay taxes. Similarly, there is little NGO reach into Dandora. Ninety-five percent of our sample received no help from any NGO (no one mentions cash transfers, in particular). These numbers remain roughly constant among the control group throughout the study period ending August 2020.

Thus, our study takes place among a population that is among the most vulnerable to such an economic downturn and faces a substantial contraction in profit. Yet, at the same time, there is little relief from either the government or NGOs. This allows us to study the impact of such a UCT policy in the absence of existing stabilization policy that may impact our estimates.

2.3 COVID-19 Beliefs and Preventative Measures

We finally asked a series of questions designed to quantify entrepreneur understanding of and responses to the outbreak. Nearly 55 of our sample believe the mortality risk of COVID-19 to be similar to that of ebola, while 20 percent believed it to be less deadly than the flu. Such beliefs are reflected in some business practices – over 80 percent of business owners wear a mask during work and a similar fraction use hand sanitizer while working. Other practices – limiting cash transitions, transitioning to takeaway service, or wearing gloves are more limited. We provide a full breakdown of these baseline practices in the Appendix.

3 Data Collection and Experimental Design

From October 2019 to January 2020, we had been conducting a cross-sectional survey of 4,500 female-run microenterprises in Dandora for a separate research study. As COVID-19 began to spread around the world, we drew a sample from this baseline to study the importance of a quick and one-time cash injection as a response to the economic downturn. We selected 800 women to be part of the study. 753 were successfully enrolled into treatment (367) and control (386). We then collected continuous surveys starting April 23, 2020 through August 11, 2020. Once each business owner was contacted (or called a maximum of 4 times with no response), the call list was re-randomized to limit the likelihood of bias in the timing of contact. All surveys were conducted by trained enumerators via phone.

The transfers were delivered in the first two weeks of May 2020 by mobile money (M-PESA). Treated individuals were made aware of their status the day after the completion of their baseline survey response. The treatment group received 5000 KES and the control group received 500 KES (as compensation for surveys and air time required to answer). The scale of the treatment transfers was designed to be approximately equal to one month of average profit among our sample as observed in January 2020.

To summarize this timeline, Figure 2 overlays our data collection and cash delivery timeline with the daily cumulative cases in Kenya from the World Health Organization COVID-19 Dashboard (World Health Organization, 2020). Two things are worth noting. First, we observe all business owners twice before the delivery of the treatment – once in January before COVID-19 and the associated government response and again in late April or early May (after the government's response, but before the substantial growth in cases).

Our treatment similarly is delivered immediately preceding this high growth rate period, and our data collection period covers the bulk of the run-up in COVID-19 cases in Kenya.

We provide balance checks in the Appendix, and find no difference between control and treatment groups along a number of dimensions. The joint F-test p-value is 0.984 across 15 relevant baseline variables.

4 Empirical Results

Our regressions take the form

$$y_{it} = \alpha + \beta T_{it} + \theta_i + \gamma_t + \varepsilon_{it} \tag{4.1}$$

where y_{it} is some outcome for individual i at week t, $T_{it} = 1$ if i is treated at week t, and θ and γ are individual and week fixed effects. Standard errors are clustered at the individual level. We focus on the continual data collection from April – August 2020, though the results are robust to the inclusion of the earlier baseline data from January 2020.

4.1 Economic and Business Impact of the UCT

Table 1 begins with business and expenditure outcomes. Panel A shows the average effects. We observe a substantial increase in profit, revenues, and inventory spending within the business. Profit increases by 40 percent relative to the control average ($p = 0.000$). A different interpretation of this change is that it recoups about one-third of the decline in profit we observe between January and May. Some of these additional resources are re-invested into the business in terms of higher inventory spending, which increases by 66 percent ($p = 0.000$), while some is used for consumption, with food expenditures increasing by 7 percent ($p = 0.072$).

Yet, the results show that the treatment also induces businesses to operate more intensively on average. Firms are 5 percentage points more likely to be open ($p = 0.046$) and are open 0.55 hours more per day ($p = 0.050$). Thus, at least in terms of average effects, the public health benefits do not necessarily come "for free" wth the economic benefits.

Because of our survey and intervention timing, we can further study treatment heterogeneity based on the scale of the initial COVID-induced shock. We interact the treatment with an indicator for whether the business closed between January and May. The results in Panel B highlight that these businesses fare differently. While there is some evidence that those who remained open in May were able to shut down their stores in response to treatment, this effect is swamped by the massive re-entry of closed businesses. Together with the implied increase in hours, these results generate the increase in average intensity of operation observed in Panel A.

Thus, the results show that the cash transfers are indeed effective as economic stabilization in response to COVID-19. The results also suggest a tension with the public health goals of containing such a crisis in a context with substantial poverty: those hit hardest by the COVID-19 shock pre-treatment use the treatment to reopen their businesses. If the treatment simultaneously induces businesses to take more public health-related precautions, this would likely lower the public health concern of this increased operational intensity. We return to this issue in Section 4.2 after further probing the rationale for re-opening in Section 4.1.1.

4.1.1 Why Do Businesses Re-open?

To better understand the results of Panel B in Table 1, we use our January and May data pre-treatment to study the initial shock to firms.

One important result from Table 1 is that food spending increases only among those that remained open in May. Among those who remained open, we observe a 9 percent increase in food expenditures ($p = 0.049$). The change among those who were closed in May is 36.95 KES, a 2 percent increase and statistically indistinguishable from zero.

To study this result further, we begin by studying how inventory and profit change before the treatment. Figure 3 shows average inventory expenditures and profit in January and May, delineated by whether or not the firm is eventually closed in May. The first thing to note as that the two groups looks similar in January along these margins. Second, there is a clear decline in inventory expenditures and profit in both groups, though it is naturally more pronounced among those that close by May.

The perhaps more surprising result is that despite the large decline in profit among those who close, food expenditures look similar to those who do not.[6] We cannot reject the null of equality between the two groups at conventional levels of statistical significance.[7]

The rationale for this result is that at extreme levels of poverty, food consumption is likely to be extremely income inelastic. We observe family-level food expenditures around Ksh 2000 per week in May, or about Ksh 606 per adult equivalent for a family of four (scaling two children at 0.65 an adult). This puts our sample's spending slightly below the food poverty line of Ksh 638 – the level that Kenyan government and World Bank estimate to be a sustainable subsistence level of calories (Kenya National Bureau of Statistics, 2018).[8]

At such levels of poverty, lowering consumption would have dire consequences, thus generating the low income elasticity we observe. Households facing a negative shock must instead adjust by some other means. Here, this takes the form of inventory adjustment. Put differently, the business itself acts as the technology households use to move resources across time in re-

[6] We did not collect food expenditures in January, though it would be surprising if they were substantially different across the two groups given the other results.

[7] In the cross-sectional regression $\mathbb{1}[\text{lower food expenditures}]_i = \alpha + \beta \mathbb{1}[\text{closed in May}]_i + \varepsilon_i$ we find $\hat{\alpha} = 0.622$ (0.020) and $\hat{\beta} = -0.017$ (0.046), where standard errors are in parenthesis.

[8] The overall poverty line, which includes non-food expenditures, is Ksh 1499 per week for each adult-equivalent.

sponse to a negative shock when formal credit markets are unavailable. This further helps rationale the results in Table 1. When exposed to the treatment, these firms rebuilding their inventory (and thus see a larger treatment effect as in Column 3, Panel B) at the expense of changing food consumption (as in Column 4, Panel B). This point has similarly been raised in Jayachandran (2006) and Fink et al. (2020) in response to weather and credit shocks, but plays a critical role in interpreting the results and potential tradeoff between economics and public health among the small, credit-constrained firms.

4.2 COVID-19 Preventative Measures

While the treatment induces firms to re-open, firms may also use the cash to adopt more sanitary practices to mitigate virus spread. We therefore study whether the treatment induces any change in spending on personal protective equipment (PPE) or public health-related management practices. The latter is an index of 9 practices related to safe business operation, measured as the z-score.[9]

Columns (1) and (3) in Table 2 show the average effect on personal protective equipment (PPE) spending along with the management practices index. We find that despite causing businesses to remain open and operate more intensively, the treatment also causes them to increase protective measures against the spread of COVID-19 while operating. PPE spending increases by 22 percent ($p = 0.022$), while our management practices index increases by 0.24 standard deviations above baseline mean ($p = 0.010$).

This effect, however, is not universal. Those who believe COVID-19 to have lower mortality risk do not change their spending or practices. We interact the treatment with an indicator for the baseline belief that the mortality COVID-19 is no greater than the seasonal flu. These results are in columns (2) and

[9] We construct an index of these practices by counting the number implemented and normalizing by baseline levels. Specifically, we construct the z-score for individual i at time t as $(\sum_{j=1}^{9} \mathbb{1}_{ijt} - \mu_0)/\sigma_0$, where $\mathbb{1}_{ijt} = 1$ if individual i implemented practice j at week t and the mean and standard deviation are from baseline responses. See the Appendix for more details and a breakdown of adoption of various practices at baseline.

(4) of Table 2. Among those with low perceived risk, the interaction term has the opposite sign and similar magnitude to the treatment variable. The net effect is that those with low beliefs of COVID-19 severity do not change preventative practices, while those with a higher assessment increase PPE spending and public health-related management practices.

The results highlight the importance of beliefs in managing the relationship between economic and public health during short-run stabilization policy. This suggests important complementary between information interventions (such as those proposed and studied in Barnett-Howell and Mobarak (2020) and Banerjee et al. (2020a)). Together, such a suite of policy adjustments may be able to induce safer re-opening without eliminating the economic gains generated by the UCT.

4.3 Discussion and Other Outcomes

Our results show that there substantial impacts from an unconditional cash transfer. However, there is both little existing evidence on how such a transfer impacts microenterprise owners and many hypotheses on how it should. In the Appendix, we therefore study heterogeneity along a number of different dimensions that may play a role.

First, we study whether household characteristics – whether the woman is married, is the head of household, her age, and number of children – generate variation in the treatment effect. Bernhardt et al. (2019), for example, shows how these types of characteristics may impact outcomes. We find no statistically significant evidence that these characteristics generate differential treatment effects. We then consider heterogeneity by type of business, as certain types of businesses are more likely to be hurt by the COVID-19 shock. We find no differential effects. We emphasize however that this is likely a function of the types of businesses that are most common in Dandora. Like most slums, our sample is dominated by retail (either directly, or combined with own-production of goods such as furniture or clothes) and restaurants. Thus, the same heterogeneity highlighted in more diversified economies is unlikely to be found here.

5 Conclusion

This paper provides new experimental evidence on the impact of a one-time cash transfer during a severe global downturn. We utilize mobile money to deliver these transfers to female micro-entrepreneurs in Dandora, Kenya, a group that was both particularly vulnerable to the economic consequences of the COVID-19 pandemic and received little assistance from the government and NGOs.

Our results show that UCTs have their intended effect of helping people maintain their livelihoods. Profit increases by 38 percent, making up approximately one-third of the decline observed during the initial shutdown implemented by the Kenyan government, while simultaneously increasing inventory and food consumption. However, we further show that caution is warranted when implementing such a policy. The cash transfer substantially increases the likelihood of a closed business re-opening, which induces an overall increase in the operating hours. This effect works potentially works against the goal of reducing interpersonal interaction to curtail virus spread, and policymakers must balance these competing economic and public health forces. A key input into this tradeoff is mitigation efforts, and we find that firms increase health-safety management practices while increasing PPE spending. Since we find that beliefs play an important role in affecting mitigation efforts, there may be an important role for public information campaigns to be used in concert with cash transfers.

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Figures and Tables

Figure 1: A comparison of female-run microenterprise profit over time in Dandora

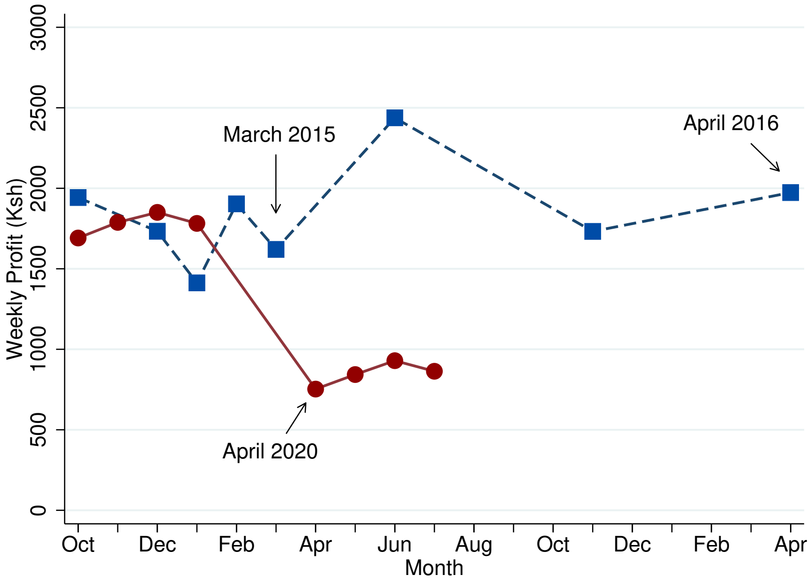

Figure notes: This figure traces out average control group profit by month in our study, and compares it to time series of profit from a similar sample of female-run microenterprises in Dandora collected in 2014-2016 (from Brooks et al., 2018). Surveys began April 23, 2020, so the April 2020 data point should be interpreted as the last week of April 2020.

Figure 2: Cumulative COVID-19 Cases in Kenya and RCT Timeline

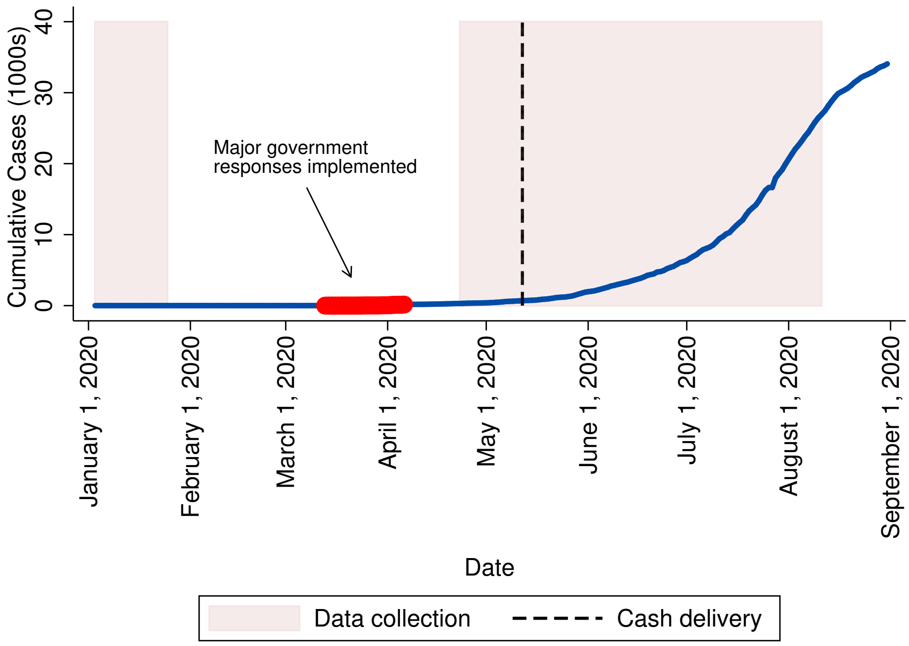

Figure notes: This figure plots cumulative COVID-19 cases in Kenya at a daily frequency from World Health Organization (2020) beginning on January 3, 2020. It further includes our data collection periods (shaded area) and cash delivery date (dashed line).

Figure 3: Pre-Intervention Changes in Outcomes

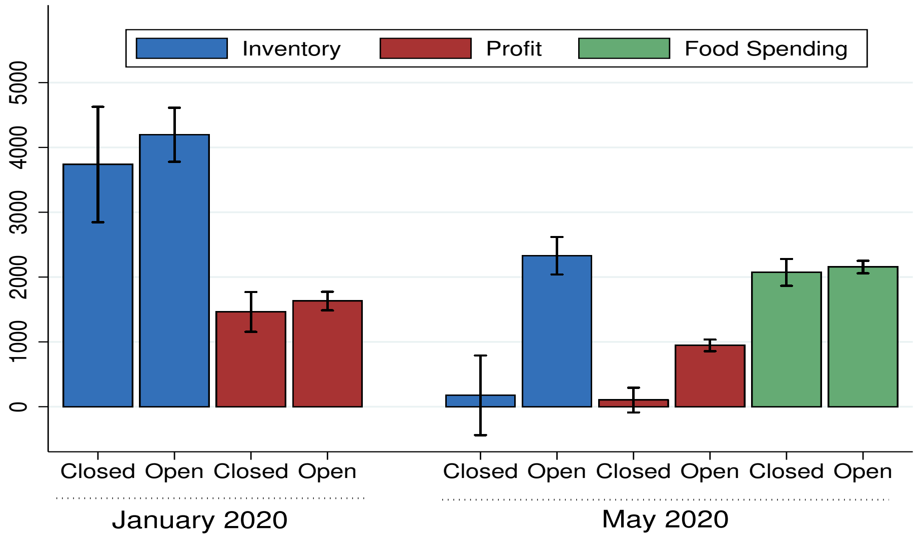

Figure notes: This figure plots average inventory spending in January and May 2020, along with food expenditures in May 2020. It delineates firms by whether or not they were open in May 2020. Ninety-five percent confidence intervals are included. Vertical axis is measured in Kenyan shillings.

Table 1: Economic and Business Outcomes

PANEL A: OUTCOMES	(1) Profit	(2) Revenue	(3) Inventory Expenditures	(4) Food Expenditures	(5) Open	(6) Daily Hours
Treat	315.381***	744.372***	1,098.363***	154.291*	0.053**	0.545*
	(72.165)	(216.005)	(228.128)	(85.709)	(0.027)	(0.278)
Observations	4,046	3,996	3,997	4,019	4,112	4,052
R-squared	0.021	0.019	0.021	0.014	0.013	0.025
Ind FE	Y	Y	Y	Y	Y	Y
Control Average	785.7	2567	1663	2063	0.829	6.931

PANEL B: OUTCOMES	(1) Profit	(2) Revenue	(3) Inventory Expenditures	(4) Food Expenditures	(5) Open	(6) Daily Hours
Treat	234.309***	591.776**	993.137***	178.686**	-0.073***	-0.375
	(77.166)	(230.622)	(245.989)	(90.587)	(0.021)	(0.264)
Treat × Closed	459.672***	884.806**	601.642**	-141.733	0.738***	5.235***
	(116.312)	(379.292)	(255.576)	(144.870)	(0.052)	(0.497)
Observations	4,001	3,952	3,952	3,973	4,066	4,006
R-squared	0.025	0.021	0.022	0.015	0.103	0.064
Ind FE	Y	Y	Y	Y	Y	Y
Control Average (Open)	898.1	2927	1890	2091	0.913	7.767
Control Average (Closed)	301.3	968.4	647.2	1965	0.464	3.365

Standard errors clustered at the individual level in parentheses. Continuous variables trimmed at 1 percent. Control averages taken over entire time period of study.
*** p<0.01, ** p<0.05, * p<0.1

Table 2: Economic and Business Outcomes

OUTCOMES	(1) PPE spending	(2) PPE spending	(3) Protective measures (z-score)	(4) Protectives measures (z-score)
Treat	44.973**	60.115**	0.239**	0.286***
	(19.639)	(20.824)	(0.082)	(0.090)
Treat x Low Perception of Risk		-72.511**		-0.273**
		(31.410)		(0.114)
Observations	4,073	4,037	4,112	4,066
R-squared	0.079	0.082	0.045	0.047
Ind FE	Y	Y	Y	Y
Control Average	204.1	204.1	0.182	0.182

Standard errors clustered at the individual level in parentheses. Spending trimmed at 1 percent. *Protective measures* is the standardized z-score of 9 management practices designed to limit COVID-19 spread.
*** p<0.01, ** p<0.05, * p<0.1

Online Appendix

Table of Contents for Online Appendix

A Additional Results

A.1 COVID-19 Beliefs and Management Practices at Baseline

Figure 4: Beliefs about COVID-19 Deadliness

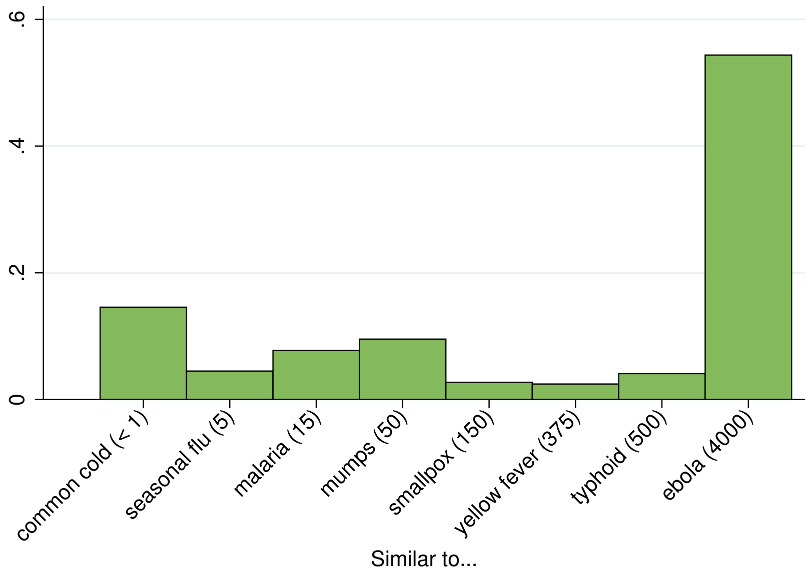

Figure notes: This figure is a histogram of the answer to the question "For an average person in good health, how serious a threat does the coronavirus pose to their health?" in late April and early May 2020 (before treatment). The number in parenthesis is the approximate average death rate per 5000 untreated individuals, which was given to respondents as part of their choices.

Figure 5: COVID-Related Protective Measures at Work

Figure notes: Baseline responses in May 2020 on measures undertaken to limit COVID spread at business. Sum to greater than one because individuals can choose as many as relevant.

A.2 Balance Tests

Table 3 reports balance tests, and shows that our treatment and control groups are balanced.

Table 3: Balance

	(1) Treated	(2) Constant
Business Outcomes		
Profit	-54.35	811.4***
	(81.73)	(57.06)
Revenue	-73.15	2619.7***
	(258.4)	(180.4)
Inventory Spending	-141.1	2138.3***
	(302.4)	(211.1)
Open	0.0147	0.811***
	(0.0282)	(0.0197)
Hours open	0.150	6.477***
	(0.289)	(0.202)
Number of employees	0.00380	0.179***
	(0.0392)	(0.0274)
Any employee	0.000420	0.126***
	(0.0245)	(0.0170)
Any loan	0.0246	0.242***
	(0.0687)	(0.0479)
Loan amount	-5.628	201.8***
	(69.00)	(48.17)
Personal and Household Characteristics		
Age	0.492	39.47***
	(0.706)	(0.493)
Head of household	-0.00689	0.582***
	(0.0361)	(0.0252)
Married	0.0140	0.618***
	(0.0354)	(0.0247)
Number of children	-0.0335	2.927***
	(0.109)	(0.0763)
Years of schooling	0.275	10.28***
	(0.786)	(0.549)
Food Spending	-17.99	2112.2***
	(91.11)	(63.61)
Observations	753	
Joint F-test, p-value	0.984	

Results from a regression of $y_i = \alpha + \beta T_i + \varepsilon_i$ run on baseline data, where $T_i = 1$ if eventually treated. All results are from the April/May 2020 survey wave, except Age through Years of Schooling, which were collected in the initial baseline in late 2019/early 2020. Standard errors in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A.3 Treatment Effect by Household Composition

Table 4: Household Composition

INTERACTED CHARACTERISTIC	(1) Head of Household	(2) Married	(3) Age	(4) No. of Children
Treat	279.673***	403.318***	520.015**	345.303**
	(99.924)	(99.545)	(250.487)	(139.583)
Treat × HH Char	64.661	-135.632	-4.919	-9.637
	(108.884)	(108.353)	(5.832)	(36.816)
Observations	4,042	4,042	4,028	4,042
R-squared	0.021	0.021	0.021	0.021
Ind FE	Y	Y	Y	Y
Control Average	848.3	848.3	848.3	848.3

Standard errors clustered at the individual level in parentheses.
Outcome in all columns is profit trimmed at 1 percent.
Columns vary the interacted characteristic.
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

A.4 Treatment Effect by Business Type

Table 5: Heterogeneous Effect on Profit by Business Type

INTERACTED CHARACTERISTIC	(1) Business Type
Treat	320.344***
	(88.290)
Treat × Production	85.880
	(189.974)
Treat × Service Provider	2.393
	(123.721)
Treat × Restaurant	-22.057
	(172.743)
Treat × Other	-146.113
	(249.236)
Observations	4,042
R-squared	0.021
Ind FE	Y
Control Average	848.3

Standard errors clustered at the individual level in parentheses.
Outcome in all columns is profit trimmed at 1 percent.
Columns vary the interacted characteristic.
Baseline business type is retail.
*** p<0.01, ** p<0.05, * p<0.1

B Robustness

B.1 Headline Results with ANCOVA specification

Table 6 reproduces the headline results in the main text. The results are similar, with lower p-values for some. The only outcome that becomes statistically insignificant at standard cutoffs is the index of health safety measures, in which the p-value increases to $p = 0.115$.

Table 6: ANCOVA Specification

OUTCOMES	(1) Profit	(2) Revenue	(3) Inventory Expenditures	(4) Food Expenditures	(5) Open	(6) Hours Open	(7) PPE Spending	(8) Protective measures (z-score)
Treat	246.701***	635.509***	550.914***	179.891***	0.050***	0.525***	22.170***	0.054
	(56.402)	(176.519)	(146.779)	(56.531)	(0.017)	(0.194)	(10.571)	(0.034)
Observations	3,216	3,167	3,159	3,169	3,312	3,213	2,322	2,946
R-squared	0.135	0.178	0.108	0.120	0.117	0.126	0.082	0.054
Ind FE	N	N	N	N	N	N	N	N
Control Average	771.4	2534	1637	2074	0.829	6.886	245.1	0.188

Standard errors clustered at the individual level in parentheses. Continuous variables trimmed at 1 percent.
*** p<0.01, ** p<0.05, * p<0.1

C Construction of Empirical Moments

C.1 Public Health Management Practices

The 9 practices included in our index are: (1) use hand santizer while working, (2) wear globes while handling money, (3) only use mobile money, no cash, (4) do not interact directly with customers, (5) customers must pick up their orders and leave immediately, (6) started a delivery service, (7) enforce social distancing, (8) wear a mask, (9) ask customers to wash hands before entering.