Understanding economic effects and resilience to COVID-19

Evidence from a cash transfer project in Kenya

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Final Report: Understanding Economic Effects and Resilience to COVID-19: Evidence from a Cash Transfer Project in Kenya

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1. Introduction

COVID-19 is causing negative health and economic effects around the globe. Health recommendations to reduce transmission (stay at home, socially distance, wash hands frequently) are challenging in many sub-Saharan African contexts. Data on the pandemic experiences of households and firms remains limited, yet vital for developing effective policies. A large share of households and enterprises in low and middle income countries (LMICs) are in the informal sector, and are thus missed in aggregate macroeconomic statistics. Furthermore, the periodic household or labor force surveys conducted in many LMICs are too infrequent to serve as real-time tracking during a crisis.

The General Equilibrium Effects of Cash Transfers (GE) project (Egger et al. 2019), currently studying the long-term effects of a randomized NGO cash transfer program across 653 villages in rural Kenya, is uniquely situated to provide evidence on the immediate and medium-term economic effects of the pandemic (and policy responses) on households and firms. Four aspects are especially notable. First, we have a large sample size we are surveying across two rounds: our current results are from over 4,800 enterprise surveys and 11,400 household surveys. Second, our sample is representative based on recent (2019) census data we collected; it is representative over time, so we can trace out effects with repeated cross-sections, and we have high tracking and survey rates. Our study area's socio-economic status, and Kenya's COVID-19 experience, are both fairly typical for sub-Saharan Africa, so we hope that our findings will be able to generalize to other countries. Third, we have coverage of outcomes starting near the beginning of the pandemic -- household surveys launched in early April, with recall back to mid-March, and enterprise surveys started in May with recall data back to February. Our surveys are still ongoing so we can see if or when recovery begins. Lastly, we have unusually rich measurement of living standards for phone surveys, covering household earnings, multiple consumption expenditure categories, and food security.

We combine these phone survey data with detailed information on households and enterprises collected as part of the GE project. The GE project is a two-level randomized controlled trial of the NGO GiveDirectly's unconditional cash transfer program to poor households. Villages are randomly assigned to receive the program, with the share of villages varied at the sublocation level (the administrative unit above the village), generating substantial spatial variation in treatment intensity. This allows us to analyze whether past receipt of cash transfers can help improve household outcomes during a pandemic.

IGC funding supported a round of phone surveys of a representative sample of 5,500 households and 1,000 enterprises in rural western Kenya, extending our previous panel data. Co-funding has allowed us to extend this to two rounds of surveys of 11,000 households and 5,000 enterprises.

We have 4 main findings to date:

1. Enterprise activity drops precipitously from February to May. Enterprise revenues fell by 44%, and both revenues and profits have remained roughly 40% below their February levels through June. These trends hold across agriculture, retail, manufacturing and service sectors, indicating a broad-based shock.

2. Household living standards have fallen by about 25% from late March to June. This holds for both household earnings in the last 14 day (across agriculture, self-employment and wage work), and household consumption (food consumption and 8 non-food categories). Declines in non-food expenditure (40%) are noticeably larger than food consumption (12.5%), Food insecurity has increased: the number of days children miss meals increases by 55% on average, from 0.8 days to 1.2 days, while adults go from 1.4 to 1.7 days missing meals.

3. We see increases in the share of households following prevention guidelines. As Kenya imposed strict mandatory face masks in April, self-reported face mask usage reaches 80% and stays consistent across the subsequent weeks.

4. In preliminary analyses, we find some evidence that past cash transfers partially offset the increases in food insecurity, particularly for adults.

Two caveats to these results are that these effects may be partially driven by flooding that affected the study area in March 2020, and may be partially driven by seasonal fluctuations. Ongoing work is further exploring these factors. In addition, our surveys of households and enterprises are ongoing, and thus we will be able to continue monitoring and tracking these effects.

2. Research design and data collection

This study takes place in Siaya County, Kenya, a rural area of western Kenya bordering Lake Victoria, where we are conducting a long-term experimental evaluation of the NGO GiveDirectly's (GD) unconditional cash transfer program. GD distributed USD 11 million in unconditional cash transfers (UCTs) to over 10,500 households in 653 villages between 2014-16. This amounted to over 15 percent of local GDP in treatment villages. Households living in homes with grass-thatched roofs (a basic means-test for poverty) were eligible for the program, which provided a series of 3 transfers totaling about US$1,000. Treatment assignment was randomized at the village level, and within treatment villages, all households meeting GD's eligibility requirement received the UCT. Treatment intensity also varied at the sublocation level, the administrative unit above the village, with ⅔ of villages being assigned to treatment in high-saturation sublocations, and ⅓ of villages assigned to treatment in low-saturation sublocations. This assignment mechanism leads to substantial spatial variation in treatment intensity.

We are collecting two rounds of phone surveys of households and enterprises to understand the effects of COVID-19. Our study sample provides details on a relatively poor and potentially vulnerable population that may be especially at-risk from lost income. Our data allow us to understand how their livelihoods are affected and the coping strategies that they undertake during the initial months of the pandemic. Our first round concluded on June 16, and involved surveys of 4,259 enterprises and 8,594 households. We achieved high tracking and survey rates for both: 89% tracking / 88% survey rate for enterprises and 79% tracking / 75% survey rate for households. The second round of surveys is ongoing and is expected to conclude in September.

Data collection via phone allows us to avoid face-to-face interactions with respondents, and we have protocols in place to allow enumerators to work from home. Median survey time for household surveys is 26 minutes, and the household modules include migrations, travel patterns and interactions, economic activity and earnings, consumption, prices, food security, mental health, intimate partner violence, social cohesion and trust. We also capture COVID-19 symptoms, knowledge of proper mitigation strategies, morbidity and mortality. Median survey time for enterprise surveys is 13 minutes and modules focus on operating status, employees, revenues, and profits.

We use these data to conduct two main empirical analyses. First, we trace out effects over time. Surveys are conducted in a random order, and designed to be representative of the study area at approximately weekly frequency. Second, we use the original design of the cash transfer program to estimate the long-term effects of cash during the pandemic. Here, we focus on treatment versus control differences for eligible households; future work will further study spillover effects.[1]

3. Results

3.1 EFFECTS OVER TIME

Figure 1 shows that after Kenya implemented their lockdown policies, local economic activity declined. Enterprise revenues and profits dropped by 55% between February 2020 and the start of May, compared to the pre-COVID average. And, while both have recovered somewhat since the gradual easing of the lockdown, sales remain 40% below their pre-pandemic value. These effects are fairly similar across economic sectors (see Figure 2). There is a hint that recovery has begun in non-agricultural sectors, while agriculture remains depressed (though some of this may be due to flooding that has also occurred over this period, or to seasonal factors).

Falling revenues not only lead to lower incomes for their owners, often poor themselves, but also accelerate job losses (see Figure 3). In a typical pre-pandemic month, 2% of employees are laid

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[1] In advance of conducting analyses, we filed a pre-analysis plan laying out our main outcomes of interest and analysis specifications (Egger et al. 2020).

off; this number jumps to 8% at the start of the lockdown, and job losses remain at nearly double the rate in May. In an economy dominated by microenterprises, the bulk of layoffs are driven by businesses ceasing operations completely, while downsizing plays an additional but smaller role.

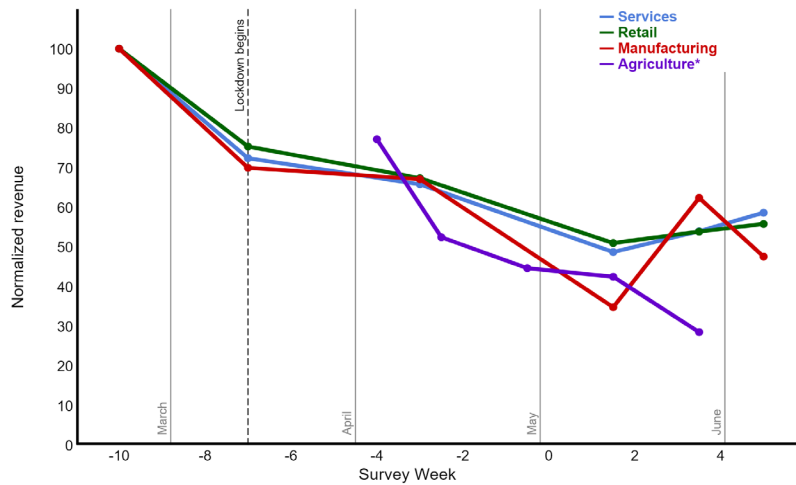Figure 1: Enterprise revenue and profits during the pandemic
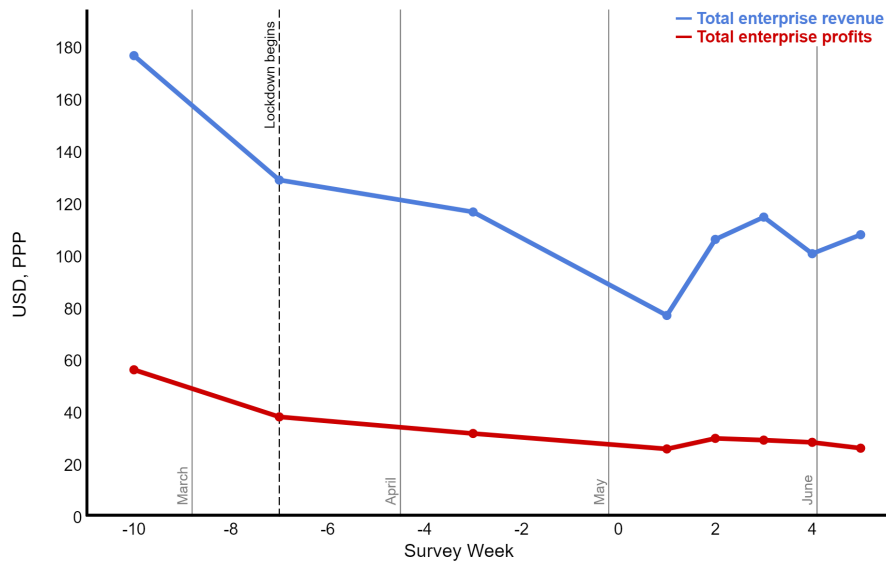
Note: The figure plots average revenue and profit for all enterprises captured in the 2019 enterprise census. Revenue and profit for closed businesses are set to zero. Data from May onwards is for the last 14 days before the enterprise was surveyed by phone. Data for February, March and April is retrospective for a typical two-week period in that month.

What does this decline mean for household living standards? We measure household earnings in the last 14 days across agriculture, self-employment and wage work, and household consumption expenditure in the last 7 days across food consumption, which includes expenditure, own consumption and gifts, and 8 non-food categories. We report household outcomes relative to the first week of data collection, with recall periods back to March 23, right around the start of government policies. (That said, if households were already experiencing effects these may be underestimates.) Both earnings and consumption fall by about 25% relative to late March, with levels again remaining consistently depressed through June (Figure 4). Declines in non-food expenditure (40%) are noticeably larger than food consumption (12.5%), yet we see also see food insecurity rise. We measure this as the number of days in the last week adults and children were skipping meals or going entire days without food. The number of days children miss meals increases by 55% on average, from 0.8 days to 1.2 days, while adults go from 1.4 to 1.7 days missing meals. Food insecurity is especially pronounced in mid-April, although interestingly in contrast to earnings and consumption, these have returned to late March levels by early July.

While some households are receiving NGO or government support, only 13 percent of households report receiving this in the past 2 weeks. We also see notable increases in dissaving in an attempt to offset these income losses.

The stress households are experiencing can also be seen in increased rates of domestic violence (Figure 5). The number of women who report being forced to engage in sexual acts increases by 50%, while three times as many report being threatened by their partners. Reports of child beatings increase by 20%.

Figure 2: Enterprise revenue by sector

Note: The figure plots average revenue and profit for a representative sample of enterprises captured in the 2019 enterprise census, as well as all agricultural farm enterprises run by households captured through household phone surveys. Revenue and profit for closed businesses are set to zero. Data from May (April for agriculture) onwards is for the last 14 days before the enterprise was surveyed by phone. Data for February, March and April is retrospective. For non-agricultural enterprises, revenues are normalized by the February baseline value. For agriculture, numbers are relative to retrospective revenue over the same 2-week period last year to account for potential seasonality.

Figure 3: Layoffs and Business closures
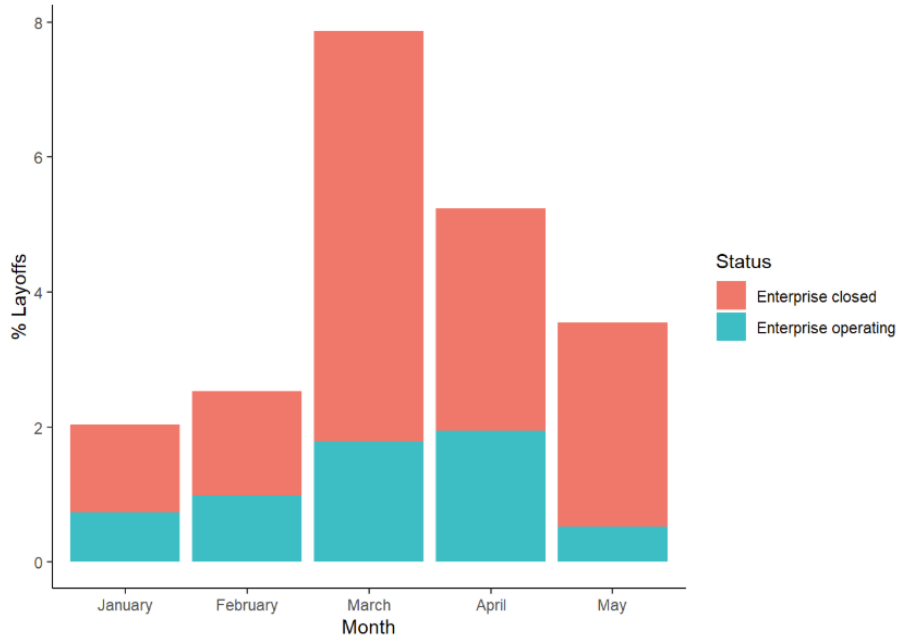
Note: The figure plots the share of employees (relative to the number of employees at baseline) that was laid off in each month. Layoffs refer to losing one's job involuntarily.

Figure 4: Household living standards
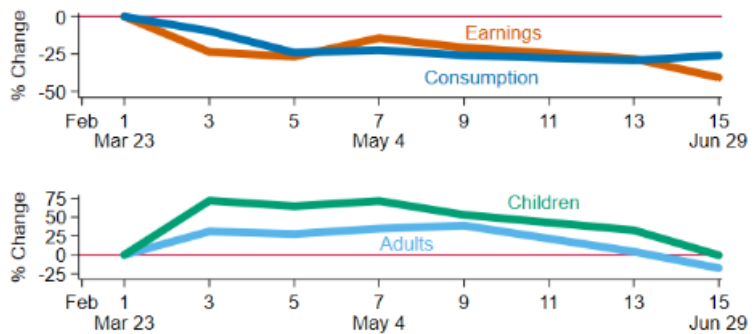
Households:
Earnings: -25%*
Consumption: -23%*

Days Missing Meals
Adults: 22%*
Children: 55%*

Mean change relative to reference date;
* = p-value < 0.05.

Note: The figure plots the declines in household earnings, consumption and days missing meals relative to a reference week of March 23. Earnings and consumption are measured in per-capita terms. Earnings includes wage, self-employment and agricultural earnings in the past 14 days. Household consumption expenditure is measured over the last 7 days across food consumption, which includes expenditure, own consumption and gifts, and 8 non-food categories.

Households do report that they have been adapting more COVID-19 prevention practices, most notably wearing face masks. While less than 10% of households reported wearing masks in early April, by late May roughly 75% of households self-reported that they were regularly wearing masks. The Kenya government has required mask wearing in public places, which may be partially responsible for these increased rates. (That said, as this is self-reported data, it may also lead to greater biases in reporting). Throughout the survey period, 80-85% of households report washing their hands more frequently.

3.2 CASH TRANSFER EFFECTS

In Figure 6, we normalize outcomes by the control group mean for the first week of data that we collect, and plot trends separately for treatment villages (the solid line) and control villages (the dotted line) for earnings, consumption and days missing meals. The percentage effects reported above each panel are the coefficient on an indicator for being in a treatment village (relative to control) estimated using individual-level data after week 1, our reference week, and include (week) fixed effects.

Across outcomes, point estimates are positive for recipient households, though only statistically significant at a 5% level for adult meals missed. Households in treatment villages perform somewhat better between weeks 5 and 9, corresponding to mid-April to mid-May -- this can be seen most clearly in the missing meals figures. Missing meals is an important marker given it is typically a coping strategy of last resort. In our earlier work, we found large increases in asset ownership among treatment households, potentially allowing for greater smoothing of the shock during the continued economic disruptions in late April; as we get more repeated measures on households, we can also look at reductions in consumption volatility.

Figure 5: Domestic violence during the pandemic
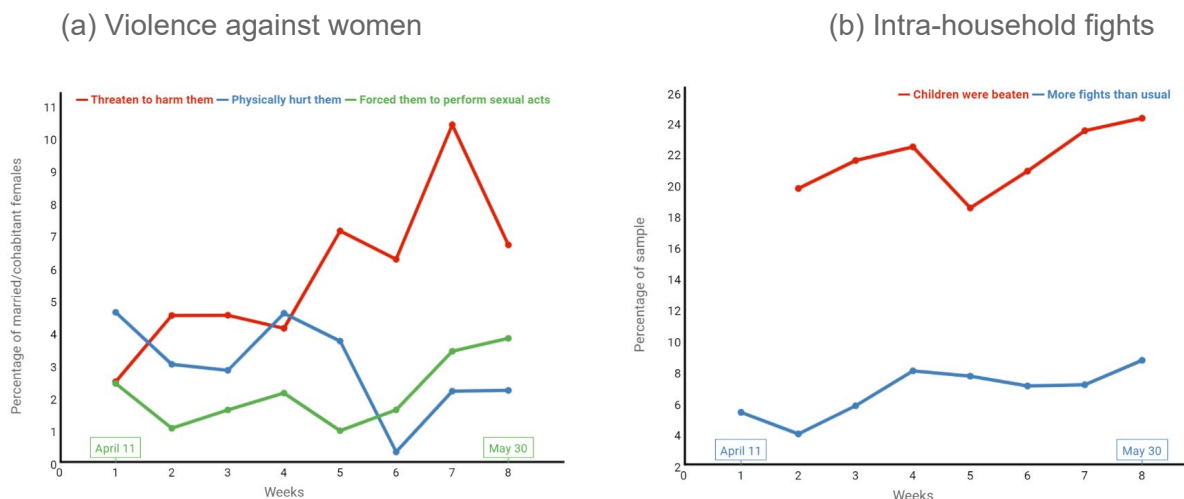
(a) Violence against women

(b) Intra-household fights

Note: The figure plots the declines in household earnings, consumption and days missing meals relative to a reference week of March 23. Earnings and consumption are measured in per-capita terms. Earnings includes wage, self-employment and agricultural earnings in the past 14 days. Household consumption expenditure is

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measured over the last 7 days across food consumption, which includes expenditure, own consumption and gifts, and 8 non-food categories.

4. Conclusions

The economic magnitude of the COVID recession appears large for households in rural Kenya, and many outcomes remain persistently lower even though some government restrictions have been relaxed and parts of the economy have started re-opening. There is some suggestive evidence that these past cash transfers may have helped partially reduce food insecurity during the pandemic. Our surveys are still ongoing and will allow us to continue to study economic effects as pandemic persists, or the economy starts to recover.

Our results highlight that there is substantial scope for additional policy responses in order to help rural households and enterprises in Kenya weather the pandemic. Given that we see increases in household food insecurity and domestic violence, this suggests that coping mechanisms that households are undertaking are not fully compensating for the lost income. This is a role that government and NGOs could help fulfill. When asked what policies would help them most at this time, entrepreneurs in our study area most frequently mention business- and micro-loans, as well as cash transfers. Moreover, our earlier research shows that cash transfers to households indirectly benefit enterprises as well by boosting revenues in the economy as a whole (Egger et al. 2019). Given limited budgets of local governments, some of these policies may need to be financed from international sources, despite the global economic slowdown.

References

Egger, Dennis, Johannes Haushofer, Edward Miguel, Paul Niehaus and Michael Walker (2019). "General Equilibrium Effects of Cash Transfers: Experimental Evidence from Kenya," NBER Working Paper No. 26600.
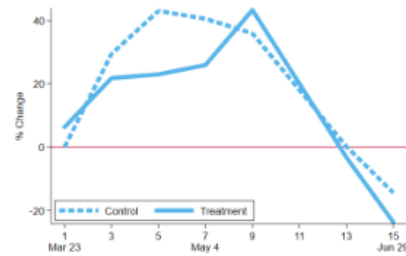

Egger, Dennis, Johannes Haushofer, Edward Miguel and Michael Walker (2020). "Pre-analysis plan: COVID-19: Understanding Effects and Resilience in Kenya from a Cash Transfer Experiment." Available at: https://osf.io/tdzr2

Figure 6: Cash transfers partially offset some of the decline in living standards during the pandemic
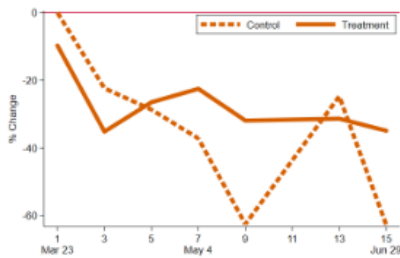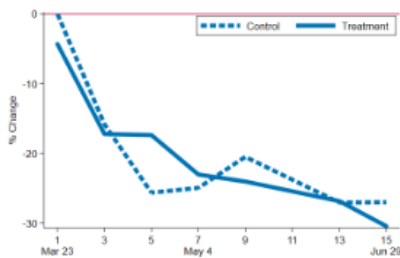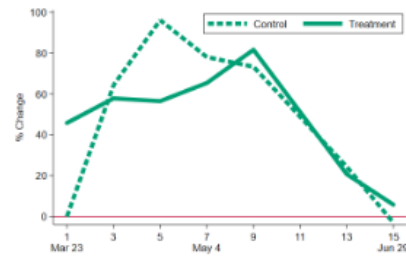

Note: Figure plots trends in household living standard measures separately for cash-eligible households in treatment versus control villages. See note for Figure 4 for more details on variable construction.

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