

## Long-Run Enterprise Responses to Redistribution: Experimental Evidence from Kenya

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*We study the longer-term (5-7 year) enterprise effects of a large-scale, randomised unconditional cash transfer programme in Kenya, which can provide important insights into enterprise responses to redistribution and social protection programmes. Initial analyses suggest some persistent effects in terms of the size and number of enterprises in areas that randomly received more cash as a result of the programme.*

### Introduction

Cash transfer programmes continue to be implemented and expanded by governments and non-government organisations in many low-income countries as a tool for poverty alleviation. When implemented at scale, such programmes may have important short-and long-run implications for firms. First, local firms may benefit from increased demand by recipients of cash transfers. Second, beneficiaries may use transfers to set up new firms, creating additional supply and competition. Third, cash inflows may change labour supply, thus affecting firms' ability to hire workers. And lastly, cash may change the overall economic conditions faced by firms through potentially affecting prices and wages in the local economy. However, there are relatively few opportunities to study how an economy responds to an exogenous increase in the amount of transfers flowing into a local economy, at a magnitude relevant for nationwide cash transfer and social protection systems. In particular, there is limited long-run evidence on how – after a large shock – enterprises grow, and when and how rural village economies reach an equilibrium.

We conducted a large-scale randomised controlled trial of an unconditional NGO cash transfer programme in western Kenya, which provided eligible recipient households with one-time payments of about USD 1,000 (nominal) via mobile money. This represented about 75% of annual income for recipient households, and 25% of GDP in villages that received such transfers. Roughly one and a half years after the start of the transfers, we documented large impacts on consumption and assets for recipient households, as well as large positive spillovers on non-recipient households and firms (through increased demand), and minimal price inflation. Taken together, we estimate that the transfers generated a local transfer multiplier of 2.5.

These short-term results raise numerous questions of interest to both academics and policymakers: i) Are there persistent effects on enterprise formation? ii) Are there long-term effects on enterprise growth? iii) Are there long-run general equilibrium effects of cash transfers on the local economy? To address these questions,

we conducted an additional round of follow-up data collection 5-7 years after the transfers rolled out to households.

## Context

This study took place across 653 rural villages in western Kenya (Siaya County). Between September 2014 and 2016, the NGO GiveDirectly (GD) provided large, one-time, unconditional cash transfers to poor households meeting basic eligibility criteria in the treatment villages in our study area. The programme was large both for recipient households and for the economy at large: the transfer corresponded to roughly 75 percent of recipient household's annual expenditure, or about 15 percent of GDP in treatment villages. Nearly USD 11m was distributed across 653 villages. Roughly a third of households in our study area met the eligibility criteria. All eligible households in treatment villages received a series of 3 transfers totalling about USD 1,000 over the course of 8 months via the mobile money system M-Pesa. This is a one-time programme and no additional financial assistance was provided to these households after their final large transfer.

## Methodology

To experimentally measure spillover effects, we conducted a two-level randomisation to select villages to receive GiveDirectly's programme. First, sublocations (the administrative unit above a village, containing about 10-15 villages) were randomised into high-and low-saturation. Second, within each high-saturation and low-saturation sublocations, 1/3 or 2/3 of villages respectively were assigned to treatment. This generated substantial spatial variation in treatment intensity, which we utilise to estimate effects: our regressions allow us to compare areas that, due to the randomisation of the intervention, received more cash relative to areas that received less.

To measure longer-term enterprise activity, we conducted a full enterprise census of the 653 villages in the study area, and conducted detailed surveys with a representative set of non-household enterprises. These surveys can be combined with household survey data as we have matched enterprise owners to households within the study area, which also helps us to understand agricultural activity.

## Main Findings

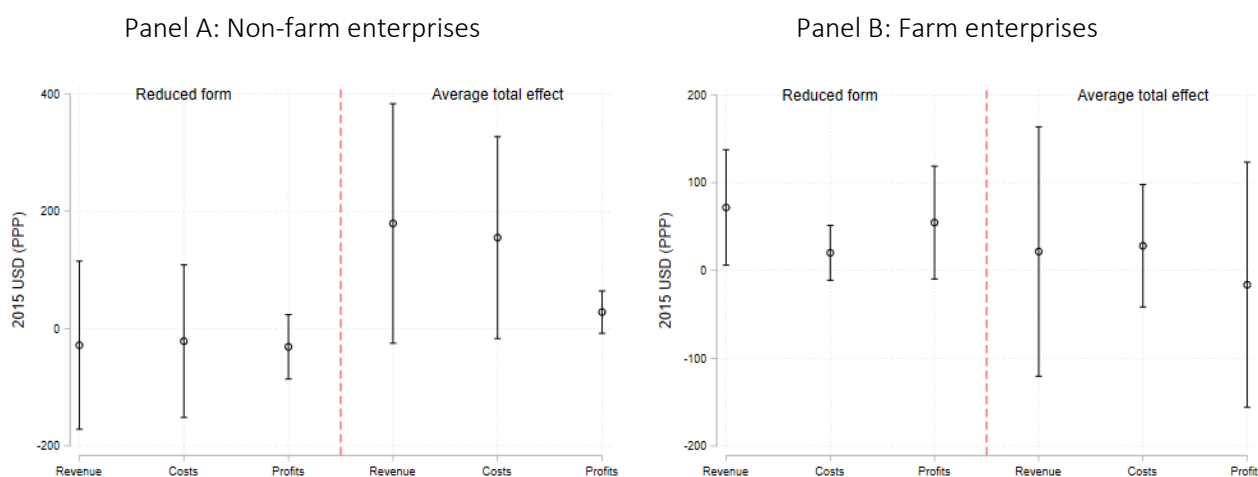
We separate our analysis of the long-run effects of cash transfers on firms into (a) changes within the average enterprise and (b) changes in the number of enterprises, as aggregate changes are a function of both changes within enterprises and the number of firms. Changes within enterprises examine whether a typical firm is different in treated versus control areas in the long-run. Differences in the number of enterprises test whether we observe firm entry in treated areas. We plot: a) the reduced-form effects that capture how enterprises in treated villages differ from those in untreated villages (i.e. the reduced-form estimation does not account for spillover effects across villages); and b) the average total effects which capture how exposure to cash, including through spillovers from nearby villages, affected enterprises in equilibrium (but which may make estimates less precise). We caution that these results do not include covariates, and that data cleaning is preliminary, thus point estimates and standard errors may vary in future publications. In particular, we expect statistical precision to increase with the inclusion of additional covariates. All financial outcomes are reported as annualised effects in real (specifically January 2015 levels) rather than nominal terms to account for possible changes in prices. So for instance a farm profit effect size of USD 100 would indicate that the average

household in the sample earns about USD 100 more per year from agricultural activities in 2015 dollars, or about USD 125 more per year in 2023 dollars.

Figure 1 shows the firm-level results. For non-farm enterprises (Panel A), we find no long-run effects on the average revenue, costs, or profits of the average enterprise in treated versus untreated villages and markets. However, the average treatment effects including local spillovers suggest that enterprises in areas exposed to cash transfers are modestly larger even 5-7 years after transfers. This highlights that accounting for spillovers from increased demand in the local economy is crucial for estimating the longer-term impacts on businesses. We also estimate positive effects on the revenue, cash, and profits that a typical household in a treated area receives from non-agricultural enterprises.

These results are not statistically significantly different from 0 at the conventional confidence level, but they are economically large. The point estimates correspond to a 25% increase in revenue, a 30% increase in costs, and an 18% increase in profits compared to the averages in areas that received very little cash (control villages in low-saturation areas).

**Figure 1: Firm-level results**



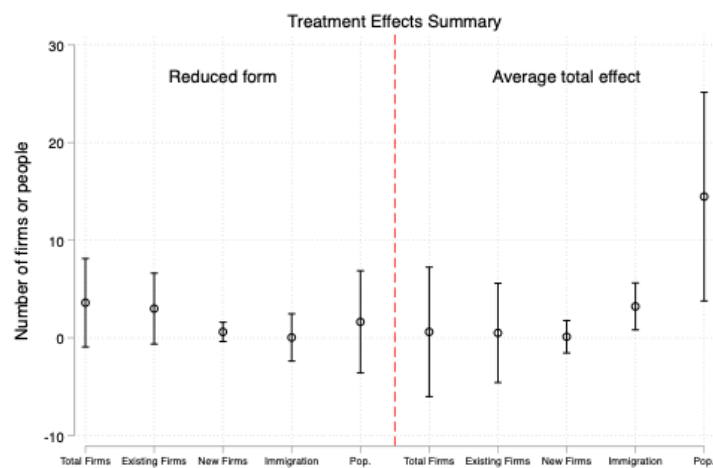
*Note: Results based on authors' calculations.*

We observe a different pattern of results among agricultural enterprises (Panel B). Here, we estimate a statistically significant reduced-form increase in farm revenues (treated vs. control villages), but no average treatment effects (when including spillovers across villages). The reduced-form effect on revenue corresponds to about a 12% increase over the control, low-saturation mean. Point estimates also suggest large reduced-form effects on costs and profits, but these differences are not statistically significant at the conventional level. Point estimates suggest costs increased by 11% and profits increased by 17%. Standard errors around average total effects are large, so we cannot reject positive spillover effects.

Next, we examine reduced-form and average total effects on the total number of enterprises in each village or market, the number of surviving enterprises that reported existing at baseline, and the number of new enterprises since baseline. These outcomes are constructed from a census of enterprises, and an observation is a village or a market (weighted equally). We also examine effects on the number of net immigrants and the overall village population. These outcomes are constructed from a census of households, and we again weight

each village equally. We find that there is some evidence of a reduced-form effect on the number of enterprises in the average village or market (19% increase over the control low-saturation mean), although the changes are not statistically significant. However, average total effects present no evidence of an increase in the number of enterprises in areas exposed to cash. Second, we find that point estimates show no reduced-form effect on immigration, but there are large and statistically significant average total effects on immigration (27%) and village population (23%) when including spillovers. These estimates assign equal weights to each village and market. In future analysis, we may weight estimates by measures such as baseline population to achieve full representativity of effects across the study area.

Figure 2: Village-level results



Note: Results based on authors' calculations.

## Policy Implications

Our preliminary results highlight that even 5-7 years after large-scale cash transfers flow into an area, several measures indicate a continued increase in local economic activity. Treated areas have higher population, experience an increase in the number of small local enterprises, while revenues, costs and profits of non-farm enterprises in particular remain elevated even after accounting for price changes. None of our estimates suggest any negative impacts.

This suggests that cash transfers may transform local economies in the medium term, and stimulate changes in the overall economic environment that may outlast the end of the programme. These effects may be driven by several underlying factors: first, a larger population and higher number of enterprises may suggest increased competition in local economies, which may boost local productivity in the longer-term. Second, there may have been longer-term investments by existing firms that allow them to grow in scale (something we did not observe in the short-term). Lastly, supply may have increased as a result of increased labour supply (e.g. through immigration, or better local education and health), or through an increased utilisation of firms' factors of production.

The policy conclusions on how cash transfers may promote longer term economic development, as well as our understanding of how rural developing economies operate more generally, will depend on which of these

channels is empirically the strongest. In ongoing work, we will conduct additional analyses using our data to shed light on these underlying forces.

### **Moving Forward**

In the next steps, we first plan to conduct more work on aggregate enterprise and household effects, in order to estimate the longer-term transfer multiplier and effects on local GDP more broadly. Second, we plan to study heterogeneous effects by enterprise type: are certain types of enterprises, or certain types of enterprise owners, better able to leverage the shock to generate longer-term gains? We will also investigate whether aggregate market-level changes (such as competition, labour supply, increased utilisation of the factors of production, or changes in prices) may drive firm and market-level results.

Our understanding of both of these first two questions (as well as additional policy implications) may be better informed by disciplining our analysis with a macroeconomic model. Ongoing work has provided some insight into how slack capacity and integer constraints in hiring workers could generate some of the patterns we have seen to date, and continuing this work is a third area of priority going forward. Lastly, given that we have documented some persistence over a longer time period, we seek to understand whether these effects will continue to persist even beyond the time frame studied to date.

More broadly, an open research question remains on how the findings in our setting may generalise to other contexts. This study took place in rural villages; urban environments may provide a different set of challenges and opportunities. This study area is also located along a major trade route, which may influence product availability and the scope for enterprise creation and expansion. As cash transfers continue to be a widely-used poverty alleviation intervention, there remain opportunities for continuing to study how enterprises respond to redistribution.

*This note is based on research conducted as a part of PEDL [MRG 6251](#).*