

# Won't You Hire Your Neighboring Firm Owner?

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September 2022

## **Abstract**

The majority of firms in low-income countries are small, often operating as single-person businesses (Hsieh and Olken, 2014). Previous literature has documented the existence of both firm owners that prefer to be an entrepreneur over having fixed wage employment as well as firm owners that prefer wage employment, running their businesses out of necessity (De Mel, McKenzie and Woodruff, 2019; Karaivanov and Yindok, 2022; Schoar, 2010). One way firms operated by these “innate entrepreneurs” could grow their businesses is to absorb the many “necessity entrepreneurs”. This research project aims to experimentally investigate the predictors and benefits of firm consolidation. We conduct a randomized program experiment offering daily wage subsidies to potential consolidation partners and observing both predictors of take-up as well as the impacts of subsidy availability on joint and distributional labor supply and earnings outcomes. This document describes the Pre-Analysis Plan for the experiment. This draft was completed and registered after the initial data collection and program roll-out, but prior to the analysis of any follow-up data. Therefore, it provides a useful reference in evaluating the final results of the study. Section 2 describes the project data.

# 1 Experimental Design

**Sample:** Our sample is drawn from a census of small firms in Aburi township in the Eastern Region of Ghana. The census sampling strategy located (1) every permanent structure with signage of business, including mobile businesses and those within a household, and (2) every 5th household without signage, in order to identify owners of a business in operation in May 2022. This sampling strategy identified 1,595 firms. Census data collection included basic measures of firm performance and firm (and owner) characteristics, as well as descriptors of firm’s main product category.

From the full census sample, we then retained firms that met the following inclusion criteria: (1) at least 3 other owners in the same product category, (2) an active mobile money account, (3) a valid contact phone number, and (4) consent to be included in future studies. 164 firms are dropped based on these criteria and our final sample is 1,431 firm owners.

**Randomization:** We stratify our randomization based on product category, which is the main product of each owner’s primary business. The reason for this stratification is that we want to match owners that compete for a similar customer base into pairs for the treatment, in order to induce potential consolidation in the trade. There are 29 effective strata, the smallest of which include four firms and the largest of which includes 284 firms.

This stratified randomization at the firm level assigns firms owners to treatment or control as follows. First, owners within the same strata are randomized into groups of four. Then within each group, two of the four owners form a treated pair, and the other two form a control pair. For strata of which the number of owners divided by four has remainder  $i \in \{1, 2, 3\}$ , the randomization operates as follows:

- when  $i = 1$ , the extra one owner is in control group;
- when  $i = 2$ , the extra two owners are in the treatment group;
- when  $i = 3$ , there are two owners in the treatment group and one owner in the control group.

**Intervention details:** Each treated pair of owners are given the offer to collaborate with each other by providing a positive number of days of labour in their partner’s business on a working day for a flexible number of days negotiated between the partners, and the research team will pay the partner providing labor a daily rate of compensation of GHC 20. The partner receiving labor is required to report to the research team the exact day, time and location for planned collaboration days for the coming week no later than 5pm

on Friday. The program runs for six weeks and each pair have up to 30 collaboration days to claim a subsidy against. Control firm owners are not given their partner's contact information, nor are they informed of the program details.

All treatment assignments were communicated with treated pairs in August 2022 during the baseline survey. During the baseline survey and ahead of the treatment announcement, both treated and control owners are asked whether they know their partner.

**Data collection:** In addition to the census data regarding May 2022 and baseline data immediately prior to the intervention, we plan to include multiple survey follow-up rounds that could be stacked for analysis, pending funding and logistics. We will track attrition rates at followup and use Lee bounds if attrition imbalance is found across treatment groups.

## 2 Analysis

We are pre-specifying a limited number of outcome variables that attempt to directly measure basic characteristics of firm performance. Given this structure, we do not think multiple hypothesis testing adjustments are necessary. However, in some cases our survey uses multiple questions for a single measured outcome, where we will use an index instead of any individual questions (e.g. products, mental health).

**Firm Outcomes** We are interested in three key outcomes for firms: firm products offering, firm performance, and firm labor input.

1. Firm labor input:

- worker hours
- worker wage
- worker retention
- number of new workers
- worker prior experience as owners

2. Firm performance, as measure by:

- total sales
- sales from main product

- profit
- total wagebill
- firm size: number of workers, total assets
- firm exit/survival

### 3. Firm product offering

- kinds and number of products sold to final consumers
- kinds and number of products sold as intermediary inputs
- main product/service typically offered by the business
- main product margin, main product price and cost

## Individual Outcomes

### 1. Labor supply

- owner hours for reference business
- owner hours for other businesses
- owner hours for other income-generating activities

### 2. Total income of firm owner, calculated as the sum of:

- wage and profits from reference business
- wage from other wage jobs
- income from other income generating activities

### 3. Happiness / mental health

We plan to estimate impacts of wage subsidies on firm performance and owner well-being using the key outcomes of interest for each of our samples of interest by comparing outcomes for treated owners with their control counterparts. The outcomes like wages, profits, sales, and total income can be analysed in a panel setting, while product offering, firm exit, worker retention, and mental health will be analysed with a post specification.

## References

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