Too close to home: Women's business location and the gender profit gap

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Abstract

We show that differences in business location contribute to the gender profit gap in rural Kenya. Using a representative survey of 3,433 businesses across all industries in our study area, we find that women earn 46% lower profits than men. 13% of the profit gap can be explained by women operating their businesses from home rather than at a market center. Women with more childcare responsibilities operate from home at higher rates than other women and spend more of their business hours performing childcare. By operating businesses at home, we hypothesize that women trade off profits for flexibility to fulfill childcare responsibilities.

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1 Introduction

Women earn less than men worldwide. In low-income countries, where most earnings of women come from self-employment, estimates of the gender profit gap vary substantially by setting, context, and sample with existing estimates ranging from 16 to 88 percent (Nix, Gamberoni, and Heath, 2016; Hardy and Kagy, 2018).[1] Aside from a distaste for inequality, this disparity is troubling because women's status within the household improves with their income, affecting female empowerment, consumption decisions, and expenditures on children's items (Duflo, 2012; Ambler, Jones, and O'Sullivan, 2021; Lundberg and Pollak, 1996; Ambler, 2016; Dizon-Ross and Jayachandran, 2022). Prior literature has identified many factors that contribute to the gender profit gap: owner characteristics such as education (Nix, Gamberoni, and Heath, 2016); business characteristics such as industry choice, firm operations,or capital constraints (Hardy and Kagy, 2018; McKenzie and Woodruff, 2006; Fafchamps, McKenzie, Quinn, and Woodruff, 2014; Duval-Diop, Heckert, Lee, Seymour, and Vaughn, 2021; Berge, Bjorvatn, and Tungodden, 2015); and gendered differences in the return to capital that reflect household decision-making (Bernhardt, Field, Pande, and Rigol, 2019). However, the magnitude of the profit gap, how much of it can be explained due to observable characteristics, and how to address it has not been fully explained (Nix, Gamberoni, and Heath, 2016; Hardy and Kagy, 2020).

In this paper, we first estimate the average gender profit gap, both in a cross-section and over time, using a large representative survey of 3,433 firms in a Kenya from 2017 to 2022. We then test whether differences in firm location – and specifically whether or not a firm operates outside of the home – contribute to the gender profit gap. Our sample specifically includes hard-to-identify businesses, such as informal businesses and businesses that operate out of homes. The survey asks detailed information on profits, owner background, and firm practices. We also include a novel module on childcare and fertility that allows us to examine the link between firm location, profitability, and childcare. To choose our model, we use Post-Double-Selection LASSO to select from the large number of potential covariates in our data, including how fertility and business location affects firm performance. We then perform a Kitagawa-Blinder-Oaxaca decomposition to further quantify the contribution of these covariates in explaining the gender profit gap.

First, we estimate the unconditional gender profit gap is large: female business owners earn 46% lower profits than men. However, after controlling for sector, location, and owner differences, the mean gap shrinks to 19%. This estimate is substantially smaller than other studies have found. Although part of the gap can be explained by women operating in

[1] See Appendix Table A1.

low-profit sectors, the gender gap also holds within each sector.

Second, we document stark gender differences in where firms locate. Specifically, 42% of female business owners operate their business from home, compared to 28% of men. These differences in business location correlate with the gender profit gap. Both individual firm profits and the gender gap grow as distance from home increases, and the largest gender disparities are among businesses operating in a market center. Ultimately, whether a firm operates in the home or the market center explains 13% of the gender profit gap.

Third, we show that firm location may affect profitability by changing the mix of both customers and competitors. Women who work at home have fewer customers than women who work at the market, are more likely to report being familiar with their customers, and have more customers ask for credit and then not repay. In other words, both the quantity and "quality" of customers are lower for women who operate at home. When women do move to the market, they select into more crowded sectors than their male counterparts. Indeed, women operating in a market have nearly twice as many competitors relative to men. Operating in a crowded environment may constrain women's profitability and may help explain why the gender profit gap persists outside of the home.

If location matters for business performance, why would entrepreneurs open their business in a less profitable location? We argue that location choices can be understood through a framework in which entrepreneurs have preferences over pecuniary and non-pecuniary aspects of employment. Since women have more responsibilities at home as the primary caregivers and homemakers in rural Kenya, they are more willing to give up profits for locational flexibility. This pattern is consistent with a compensating differentials framework, in which workers trade-off income and non pecuniary aspects of their job and are willing to give up income to work in a more favorable location (Rosen, 1986; Le Barbanchon, Rathelot, and Roulet, 2021; Goldin, 2014). The compensating differentials framework implies that women with the most domestic responsibilities should have the highest value of working from home.

The data support this hypothesis. Women with more home responsibilities – defined by women whose youngest child is under school age – work from home at higher rates than other women. There is no association for men. Conversely, women and men whose child is entering school are more likely to work at the market center. In other words, mothers with younger (older) children are more likely to work from home (market). Our analysis, though not causal, imply that higher childcare responsibilities at home constrain women's business location choices more than men's.

This paper makes three contributions to the literature. First, we update existing estimates on the gender profit gap in a low-income setting among a large, representative sample of businesses. Our sample is substantially larger than many other studies, and allows us to

consider across-industry differences.[2] We show that the estimated gender profit gap is smaller when we include harder-to-reach firms operating at home, after accounting for differences associated with gender such as industry and owner characteristics.

Second, we demonstrate that business location is an overlooked contributor to the gender profit gap in a low-income country. Choosing the business location is an early and consequential decision for entrepreneurs. A large literature documents that location impacts business performance by determining access to markets and customers (Krugman and Obstfeld, 2009) as well as financial and social capital (Sorenson and Audia, 2000; Samila and Sorenson, 2011; Kalnins and Chung, 2006).

Research in high income countries has shown that work location is important for women in particular. A randomized field experiment in England that gave workers the option to work remotely improved the job performance of women, and mothers specifically, likely by reducing their commute (Sherman, 2020). French women want a shorter commute than men, and this difference in willingness to commute can account for 14 percent of the French gender wage gap (Le Barbanchon, Rathelot, and Roulet, 2021). Women who are randomly assigned to a better location through a public housing program are more likely to run a business (Doering and Liu, 2019). We show that women in a low-income, rural setting may be facing similar trade-offs. Our results are in line with these studies in high-income countries, that find that women prefer working closer to home to balance paid and household work.

Third, we explain that location may affect the gender profit gap through supply and demand forces. In particular, businesses that operate from home may be more likely to sell to family and friends, a form of a "kin tax" that affects both female and male entrepreneurs (Jakiela and Ozier, 2016; Squires, 2018). Gender profit differences also emerge because of standard competitive forces. Because the majority of entrepreneurs are women and they select into only a few industries, women-owned businesses have more competitors than men-owned businesses, even when they operate in profitable locations. Thus, our results suggest that the emphasis in the literature on improving women's profits through business training programs or capital grants may have limited impact simply because profits are low in highly competitive environments. Our results are also applicable to the growing literature on the role of childcare in increasing the earnings of mothers (Bjorvatn, Ferris, Gulesci, Nasgowitz, Somville, and Vandewalle, 2022). Expanding access to childcare may induce women with high childcare obligations to open businesses and allow women with existing businesses to relocate to markets. But if these new entrants select into currently female-dominated industries, this may drive down profits for all women that market-industry. Paradoxically, a policy that expands childcare access in our study area may increase the gender profit gap by reducing

[2]For example, the World Bank Enterprise Survey for Kenya in 2018 surveyed 1,001 firms.

women's individual profits but leaving men relatively unaffected.

2 Data

We use data from a large-scale randomized controlled trial of an unconditional cash transfer program (henceforth the general equilibrium, or "GE," study) in Siaya County, a rural area in western Kenya bordering Lake Victoria with nearly a million residents (see Figure A6) (Egger, Haushofer, Miguel, Niehaus, and Walker, 2022). The purpose of the GE study was to measure the general equilibrium and spillover effects of cash transfers on households and businesses in the area. The cash transfers were distributed by the NGO GiveDirectly, which distributed $1,000 each to over 10,500 households across 653 villages in three contiguous subcounties of Siaya County between 2014 and 2016; several longer-term follow-up surveys were conducted between 2016 and 2022.[3]

Our primary data come from a longer-term endline survey fielded as part of the GE study in 2021 and 2022 to 3,958 firms. In this wave we added a fertility module that included questions on childcare. The final sample size is smaller than 3,958 because we restricted our sample to firms that were operating in the past week at the time of the survey (90% of surveys), and surveys conducted with the owner of the enterprise (as opposed to an employee, 98% of surveys). Our main analysis thus has data for a cross-section of 3,433 firms. We also exclude observations missing key variables to create a consistent sample throughout. Our sample includes businesses operating across most of the sectors in the local economy, with the largest sectors being food, services, manufacturing, and retail. The sample is substantially larger than most firm-level surveys (McKenzie and Woodruff, 2014). We do not use the GE randomization in our analysis, although we do include a control specifying the GE treatment status in all specifications to reflect the original study design.

In addition to our main cross-sectional data, we also combine the different rounds of GE surveys into a panel data set. Because the GE study has been continuously collecting data in the area since 2014, 92% of the 3,433 firms surveyed in 2021-22 had been surveyed in at least one previous survey round. We are therefore able to construct a panel dataset of 1,475 firms which were surveyed every round since 2016 (we are not able to connect our firms to the 2014 baseline data). Details on survey rounds from the GE study used in our paper are in the appendix.[4]

[3]To identify spillovers within and between villages, the GE study employed two levels of randomization. First, they randomly assigned sublocations to high or low saturation status; second, within high (low) saturation sublocations they randomly assigned two thirds (one-third) of villages to treatment status. Within treatment villages, all eligible households received the money.

[4]For more details on the data and sample of the Egger et al. (2022) study, please see their Pre-Analysis Plan AEARCTR-0000505 on the AEA RCT Registry.

2.1 Summary Statistics

In our sample, 63% of firms operate out of a village, and 52% (48%) of those are owned by households who were treated (control). The remaining 37% of firms operate in market centers. Throughout our analysis, we control for GE treatment status by including whether or not the firm sublocation is high- or low-saturation; firms located in market centers do not have a village-level treatment status. Markets are located at or near the intersection of multiple villages or adjacent to major roads, and often have set "market days" during which commerce takes place with customers from a variety of locations. By contrast, firms operating in the villages mostly sell to neighbors, family, or individuals who would otherwise be familiar to the business owner.

2.2 Survey content

The firm surveys ask respondents about firm accounting (revenues, costs, and profits); personnel (ownership structure, employees and co-owners); firm operations (operating hours and operating location(s)); time use (what the respondent was doing during a randomly selected hour at work); and owner background characteristics (sex, age, and education in years).[5]

In contrast to typical firm surveys that focus purely on firm operations, we include a module on fertility and a module on sexual harassment to examine how gender, childcare, and safety relate to business operations. The fertility module was administered during 2021 and 2022 to all firms in our cross sectional data, and asked respondents about the number and age of their children and their childcare demands. We also ask the enumerator to observe whether there is a child present at the time of survey as an alternative measure of childcare.[6]

2.3 Measurement of key variables

We measure all profit and expenditure variables in Kenyan Shillings.[7] Following De Mel, McKenzie, and Woodruff (2009b) we measure profits by directly asking owners about their profits over three different time periods (last 7 days; last 30 days; last 12 months). We use the last 30 days throughout our analysis. Our results are robust to different time horizons for measuring profits and dropping non-operational firms. Firms that were not operational

[5]Over 98% of surveys were conducted with the owner of the business (as opposed to an employee or other respondent). We restrict our sample to businesses for which we conducted the survey with the owner. If owners report operating in more than one location, we restrict to the primary location.

[6]The sample size also differs for some of the variables in our analysis because of question conditionality (some questions were only asked of certain groups). In addition, some questions were added only partway through a data collection wave.

[7]In 2022, $1 USD=113.55 KES.

were assumed to have zero profits. Because the profit distribution is strongly right-skewed, our main analysis presents profits logged and winsorized at the 1% level.

To measure business location, we have exact GPS coordinates of the business for surveys that took place on-site at the business. For surveys that took place elsewhere, we have the GPS coordinates of the centroid of the village or market center that the respondent self-reported as the business location. We use exact GPS coordinates when available, otherwise we use the centroid, to calculate variables for which exact kilometers are necessary.

3 Conceptual Framework

Our conceptual framework on firm location decisions draws on several primary observations regarding the connected nature of work and family in rural Kenya. First, women in Kenya primarily work as entrepreneurs due to few labor market opportunities to earn income as wage laborers. Second, women are culturally expected to engage in substantial amounts of home production, including childcare, regardless of whether or not they have a business. These dynamics have been formalized in the compensating differentials framework of Goldin (2014) and used to estimate the value of amenities in Le Barbanchon, Rathelot, and Roulet (2021).

We consider the decision of whether to start a business as closely linked to an individual's opportunity costs. For men, the opportunity costs of entrepreneurship relate to their other paid labor market options and (in this context) subsistence agriculture. However, for women, the opportunity costs of entrepreneurship are time spent engaged in home production and childcare.

Assuming that people have a preference for starting a business in a particular industry, we can think of the primary decision an entrepreneur faces is where to locate their business.[8] Customers are clustered around the market center, and the density of customers decreases as firms locate further away from the market center. Profits are proportional to the number of customers firms receive. There are two competing incentives: first, businesses want to be close to where customers are. However, there is also an incentive to locate their business away from competitors, and closer to their home production where opportunity costs are lower. This trade-off is closely linked to the idea of hedonic prices associated with the firm location decision (Rosen, 1986). In equilibrium, all firms must have no incentive to relocate, thus for each individual entrepreneur within a sector, profits net opportunity costs must be equal.

[8]The decision can also be a household optimization problem; for our purposes, we abstract away from interhousehold bargaining considerations.

Several testable implications emerge from this framework. The first is that although women have few outside options in the labor market, those with younger children may be less likely to select into entrepreneurship given higher opportunity costs. The second implication is that conditional on selecting into entrepreneurship, women are more likely to locate closer to home where opportunity costs are lower, trading off more profitable locations with those that allow them to meet non-pecuniary needs. Third, the value of working from home should be higher among women with more home demands. These could be women who do not have access to formal childcare, who do not have relatives or older children that can watch the child, or whose children are not in school.[9] Finally, this framework predicts that due to inequality in the value of home production between men and women, a gender profit gap emerges: male business owners make higher profits than female business owners due to different constraints on location choices, and (to a lesser extent) sector.

4 Empirical Strategy

We measure the gender profit gap by estimating the impact of a business i having a female primary owner on the self-reported monthly profits (logged and winsorized at 1%) of that business using OLS with robust standard errors.[10] We control for X_i, a matrix of variables that correlate with both business profitability and owner gender:

$$\text{Ln(Profits)}_i = \alpha + \beta_1 \text{Female Owner}_i + \delta' X_i + \epsilon_i \tag{1}$$

Due to the large number of potential control variables that we could include in X_i, we implement Post-Double-Selection LASSO (with heteroskedastic errors, as outlined in Belloni, Chernozhukov, and Hansen (2014)). Following the procedure, we specify four parameters for the PDS LASSO: the dependent variable (log of monthly profits), the independent variable (owner gender), the control variable choice set (36 variables total, a full list can be found in the appendix), and variables to partial out (i.e., prevent LASSO from excluding). There are only two variables that we ensure are included in our final model: a variable indicating the randomization status of the firm's area in the GE study (i.e., the saturation status of the sublocation) and the business sector. We then run a multivariate OLS regression with the controls selected by the PDS LASSO. We use robust standard errors throughout.

The PDS LASSO procedure selects the following controls X_i: owner education (in years), whether the business operates from home, whether the business operates from the market (the omitted category is out of home, not in market), (log) of the initial investment in the

[9] Children start primary school in Kenya between ages 5 and 7.

[10] For 96% of firms, the primary owner is the only owner.

business (Kenyan Shillings), number of current employees, hours open per day in the last 7 days, whether the business is licensed, whether it accepts mobile money, whether it owns stock, value of machines owned (Kenyan Shillings), and total investment in assets last month (Kenyan Shillings). These are the variables we control for in Equation (1). To identify the relative contribution of each of these LASSO-selected variable to the gender profit gap, we also estimate a Kitagawa-Blinder-Oaxaca decomposition.[11]

5 Results

5.1 Measuring the gender profit gap

Our first contribution is to describe the gender profit gap in a large, representative sample of firms in all industries of a county in western Kenya, both in cross-section and over time. In our sample, 77%of enterprises are owned by women. Consistent with the existing literature, we find a substantial unconditional gender profit gap for small entrepreneurs: on average, men earn more (2430 KES per month) than women, or roughly 10% of monthly household expenditure. This difference is not driven by several very high-earning men; the profit distribution of male-owned firms is a rightward shift of the distribution female-owned firms (Figure A2).

While women's business revenues fell disproportionately relative to men during the Covid-19 pandemic (Liu, Wei, and Xu, 2021; Goldstein, Gonzalez, Papineni, and Wimpey, 2022), the gender profit gap in our data has been relatively constant even before the start of the the Covid-19 pandemic.[12] Appendix Figure A1 presents the evolution of the gender profit gap from 2014 – 2022, showing that women earn less than men in every year for which we have data (the profit gap is 38% in 2014, 77% in 2017, 63% in 2019, 41% in 2020, 61% in 2021, 46% in 2022).

Part of the profit gap is attributable to the fact that men and women differ in their individual characteristics, choice of industry, and other firm characteristics. Table A3 is a balance table presenting means of such characteristics by primary owner gender. The average male business owner in our sample is slightly older than their female counterpart (47 versus 46 years, $p < 0.05$), and are slightly more educated (8.78 versus 7.17 years of education, $p < 0.01$). In general, women's businesses operate at a smaller scale than men's: men-owned businesses are open for more days in a week and for more hours per day, women report 39% lower revenues and fewer employees (although the vast majority of both male and

[11] When the sample is considered separately by sex, the LASSO procedure still selects the from home and market indicators for women; for men it does not.

[12] Per-firm profits increased during the pandemic, likely due to the closures of less productive firms.

female-owned businesses only have one employee, the owner), lower initial investment in their business, lower monthly asset investment, and lower value of owned machines.[13] Men-owned business are more likely to be licensed and accept mobile money (both $p < 0.01$). Although men and women have the same number of customers (11 customers per day), customers are more likely to ask women for goods on credit, consistent with the observation that women (especially those working at home) are more likely to know their customers.[14]

Previous literature has identified that differential selection into industry is a key driver of the gender profit gap (Borrowman and Klasen, 2020). Indeed, men and women tend to operate in different industries in our data. Women are much more likely to operate in the food and retail sectors, while men are more likely to operate in food processing and manufacturing, relatively higher profit-margin industries. Nearly a quarter of all men are in manufacturing, compared to only 4% of women. Conversely, only 7% of men operate in the food industry, but 40% of women do. The industries that are dominated by women tend to be lower-profit industries. However, although women are more likely to select into low-profit industries (see Figure A4), the gender profit gap also exists *within* each industry. In fact, as Figure A3 shows, male-owned businesses out-perform women in every industry, including the female dominated ones: food and retail.

Accounting for differences in these individual and firm level characteristics can explain some of the gender profit gap. In Table 1, we report estimates of Equation (1). Column 1 presents the raw gender profit gap, showing that being a female is associated with a 46% decrease in profits. With all control variables included, the coefficient on being a female owner (Column 2) is -.206 ($p < 0.05$), compared to the raw coefficient -.399 ($p < 0.01$).

5.2 Location and the gender profit gap

There are stark differences in the business location choices of men and women. 42% of women-owned businesses operate out of the home, compared to 28% of men ($p < 0.01$). Conversely, men are more likely to operate their business from a market center (44% to 36%).[15]

Differences in location correlate with differences in profitability, even after controlling for covariates. In Figure 1 we present gender differences in profits disaggregated by each location-type, both not controlling (Panel A) and controlling (Panel B) for the full set of LASSO selected covariates. Businesses operating in the market make more profits than those

[13] Our main results are also robust to examining profits-per-hour.

[14] Though more customers ask women for goods on credit, there are no gender differences in *rates* of repayment. This still implies a higher number of customers never pay female owners.

[15] The other 23% of women and 30% of men who operate neither from a market nor from home are located in the village, the side of a road, etc.

that operate in the village, which make more than those that operate from home. These differences are statistically significant at the $\alpha = .05$ level.[16]

We follow the approach of Kitagawa–Blinder–Oaxaca (KOB) to decompose the gender profit gap into various drivers (Kitagawa, 1955; Oaxaca, 1973; Blinder, 1973). The decomposition is in Appendix Table A4. Business location characteristics explain 13% of the gender profit gap.

5.3 Selection into Entrepreneurship and Location by Gender

We next show how childcare obligations correlate with selection into entrepreneurship, and also location. Panel A of Figure 3 shows the number of children of each age for men and women owners. While the relationship between child age and number of children is flat for male business owners – suggesting that a man's children are not affecting his selection into entrepreneurship – this is not the case for female business owners. Women with any children under 8, approximately the school age, are "missing" from our sample of entrepreneurs. Women also wait longer than men after their birth of their first child to start their business (on average, men open their business 9.8 years after their first child, women 16 years (Appendix Table A3, $p < 0.01$). Men are able to start businesses sooner after becoming fathers *even though they have more children on average* (4.95 versus 4.65 kids, $p < 0.07$). Childcare responsibilities affect when and where women start their business, but not men.

Second, women with more childcare responsibilities, as defined by women whose youngest child is under school age, work from home at higher rates than other women (Table 3, Panel B). These childcare patterns align with our surveyors' impartial observations of each business at the time of the survey. For each survey conducted at the business location, we asked the surveyor to observe whether there was a child in the business who could be reasonably construed as the owner's. Women were observed to have a child in their business more often than men for both market or home locations, but women working at home were more likely to have a children in the business than either men working at home or women working at the market (Panel C). Indeed, more than 40% of the women who operate their business from home had a child in their business at the time of the survey (compared to $\approx 25\%$ of market women).

The observed and self-reported correlations between child age and probability of operating at home translate into actual hours spent on childcare. Panel D plots the distribution of (log) hours that the owner reported doing childcare while operating their business last week.

[16]Location choices also correlate with profits over time; see Appendix Figure A5. Appendix Figure A1 shows the change in profits since 2016 for men and women who work in different locations. Within each gender, owners who work from the market are more profitable than those who work out of the home.

Women at home reported the most hours spent on childcare, followed by women at the market, and lastly, men.[17]

We also quantify how children correlate with location using OLS, separately for men and women. We regress home versus market status on a variety of control variables (Table 2). Having one more child aged 2 is associated with an increase in the probability of working from home of 0.059, and a decrease in the probability of working at the market of 0.071 (both are statistically significant at conventional levels). There is no association for men. Having a child older or entering the school age years (3 to 8 years) is positively associated with working at the market for men, but there is no association for women.

6 Mechanisms

6.1 Why do women operate at home?

Our primary results are consistent with our conceptual framework: entrepreneurs face costs to working outside of the home, and therefore are willing to trade off higher expected profits for shorter commute and a location closer to their home. While this constraint is true for both men and women, the gradient differs by gender.

Location may affect profitability through differences in competition. We present the rest of our measures of location quality in Table A3, Panel C. These measures include how far away the business is from the closest market center and the number and kinds of other businesses in their area. The clear pattern is that men's business locations are more favorable than women's in terms of competition. Men's businesses are more likely to be monopolies in their location, both on the extensive margin (11% of male-owned businesses have *no other* same-sector competitors within one kilometer, compared to 3% for women, $p < 0.01$) and the intensive margin (even if the business is not a local monopoly, men's businesses have a *fewer number* of same-sector competitors within one kilometer). By contrast, women have almost twice as many other same-sector businesses operating in a one kilometer radius.[18] As Figure 2 shows, women have more competitors at market centers than men do, and women who work in the market have more competition than women who work from home, a pattern that tracks with profits.

[17] These differences in the distribution of log hours are pairwise statistically significant under a two-sample Kolmogorov-Smirnov test for equality.

[18] Men's businesses are also more likely to be in a market center. In other words, male-owned businesses are more likely to be the only business in their sector at their market.

6.2 Alternative Explanations

6.2.1 Information constraints

One interpretation of our results is that female owners may systematically underestimate the profits of comparable firms in a better location. In one study of migration in Kenya, Baseler (2021) found that people living in rural areas don't move to higher-paying, urban centers partially because they underestimate the earning gains to moving, and credible information was enough to induce high rates of mobility. A similar bias could mean that female owners do not move their business, even when it would be profitable for them to do so. To better understand owners' location choices, we conducted focus groups with 100 men and women.[19] We find that women are aware that they could make higher profits by relocating their business, and many of them have friends who operate in the market, or have done so themselves in the past. However, owners may still be misinformed about the magnitude of the revenue gains.

In those focus groups, however, women frequently mention the substantial amount of childcare and domestic housework that they must perform as a barrier to increasing the profits of their business. By contrast, only several men mention childcare or domestic responsibilities as constraint to their business. Women say that working at home makes it easier to balance competing demands of home and work-life, such as childcare or chores ("I prefer working near my home because I get time to do domestic chores when business is slow. Going to the market limits you from doing domestic chores at any time").[20]

6.2.2 Capital Constraints

Women may also not move their businesses to the market because they are capital constrained. If the costs of opening a business differ by location, operating from home may allow women to save on transport costs or market fees. Indeed, women said that paying these additional costs is a barrier to moving to the market ("I work from home because it's less expensive in matters of transport"). As credit markets are imperfect in our setting, women may have difficulty raising capital to operate away from home (De Mel, McKenzie, and Woodruff, 2009a).

[19] Participants in focus groups were a convenience sample of business owners from villages and markets nearby (but not including) the GE study area. The majority of participants were women (in line with the gender composition of business owners).

[20] These opinions are not specific to mothers in our study area. As part of a different qualitative study, mothers living in a slum in Nairobi reported that they often bring their child to work because they cannot afford a childcare center, but that caring for their child "was a distraction and compromised the quality of their work" (Clark, De Almada, Kabiru, Muthuri, and Wanjohi, 2021).

We analyze the original randomization from the GE study to address this question. If women who operate from home were either interested in relocating their business, but could not due to a lack of capital, we would expect that a large cash infusion would impact business location overall, and by sex.

Our analysis of the GE study randomization are inconsistent with the capital constraints interpretation. Egger et al. (2022) document that large cash transfer did not increase the rates of entrepreneurship, either overall or by sex.[21] Large infusions of cash did not change selection into entrepreneurship, nor the likelihood of starting a business, either overall or by sex.[22] Second, migration was low – only 5% of control low-saturation household migrated, and this was unaffected by treatment (GE Table A.9, Row 1). Thus, women did not use the sizeable cash transfer to move their business; the likelihood of operating a business from home was not affected by the cash transfer.

6.2.3 Is it cost effective for women to operate at home?

If children are the primary reason that mothers operate at home, then operating at home is rational if the cost of formal childcare is greater than the profit gains from moving to the market. Our back of the envelope calculation suggests that childcare costs are indeed too high to make moving profitable. Childcare centers in our study area cost 100 Kenyan Shillings per day, per child. The average woman in our sample works 5.87 days per week and has 1.18 children under the age of 12 (assume older children older no longer require childcare). Multiplying, we get that this woman would need roughly 28 childcare-days per month at a cost of 2,800 Shillings to meet her childcare needs. Fully meeting her demand for childcare would cost roughly half of a mother's monthly profits, and more than twice the average profit gain to operating in a market.[23] Faced with the high costs of childcare, mothers rationally choose to operate from home and save on the babysitting.

7 Conclusion

The majority of employed women in low-income countries are entrepreneurs, and the majority of entrepreneurs in these countries are women (World Bank (2021)). But women's greater exposure to entrepreneurship has not translated into business success relative to men. In

[21] Results for the full sample are in Table 3, Panel C of their paper; results by sex are not shown but known.

[22] This may not be the case in other settings. Papineni et al. (2022) found that women in Nigeria were 7 percentage points more likely to run a business after receiving a cash transfer payment.

[23] The profit difference between women operating from home versus at the market in the same sector is 1,300 shillings. 1,300 is the coefficient on the location dummy in a regression of monthly profits on whether the owner is home or the market, controlling for sector, in a sample of women with children.

this paper, we estimate the gender profit gap in a large representative sample of firms in rural Kenya. Across all industries, the gender profit gap is 46% , a difference that is large in magnitude and economically significant. After adjusting for key differences in owner and business characteristics, the gap remains 19%. Our analysis suggests that firm location decisions are a key factor contributing to these disparities. In particular, firms locate in less profitable locations so that entrepreneurs can balance their preference for non-pecuniary aspects of entrepreneurship, such as home responsibilities, with profits.

While these correlations do not reflect a causal relationship, our results are consistent with a growing body of work that household and childcare responsibilities affect labor force participation, business location, and ultimately small business performance. While the magnitude of the gender profit gap may vary based upon context, setting, and even industry, it is notable that similar dynamics regarding women's location decisions and earnings have been observed in the US, the UK, France, as well as in other developing countries.

However, our paper suggests that the general equilibrium effects of an expanded childcare policy may be muted. In particular, the gender profit gap exists even among firms that are located in market centers. Absent sufficient paid labor market opportunities for women, even women located in market centers might face substantial competition pressures that will lower profits, and these dynamics might be further reinforced if more women moved their businesses. Thus, our analysis suggests that although location contributes to the gender profit gap, there are substantial structural factors that affect location decisions and ultimately firm performance.

Figure 1 — Location correlates with profitability, even after accounting for industry and other covariates

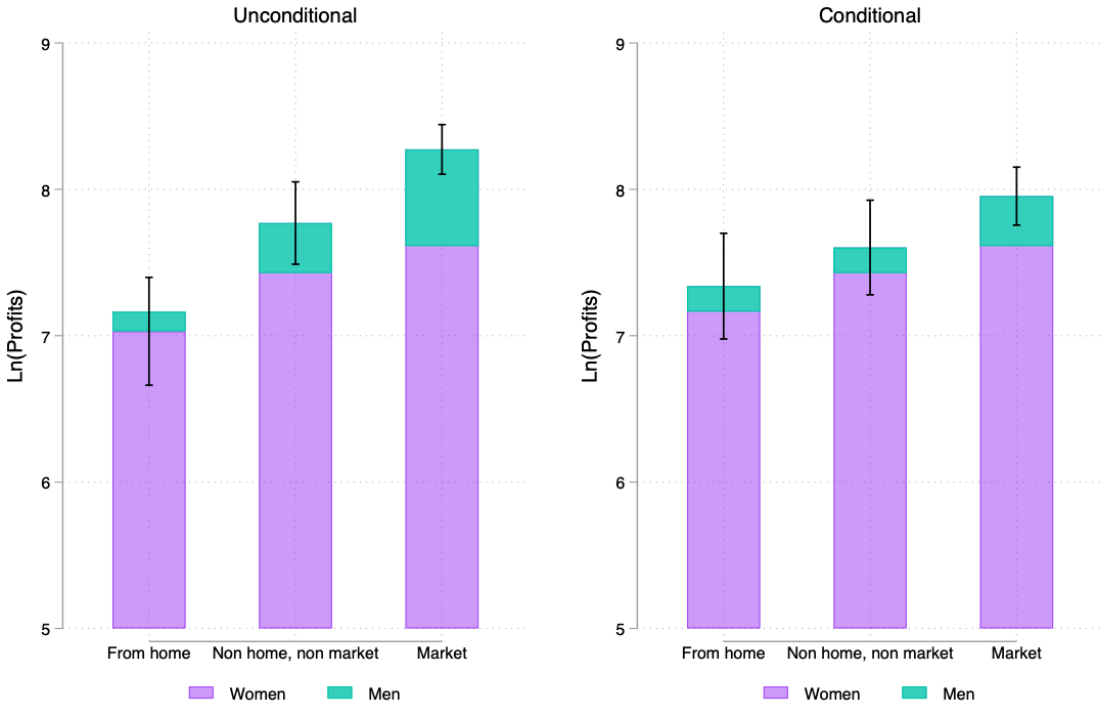

Figure 1: This graph presents the gender profit gap across different location types. Each bar represents the coefficient on owner gender from a regression of log monthly profits on owner gender, with and without controls. The right panel controls for our standard covariate set: owner education, business sector, initial investment in the business (log), number of current employees, hours per day the business is open, the value of machines owned, the total asset investment, whether the business is licensed, whether it accepts mobile money, operating capacity, and whether it owns stock.

Figure 2 — Market women have more competitors than men or from-home women

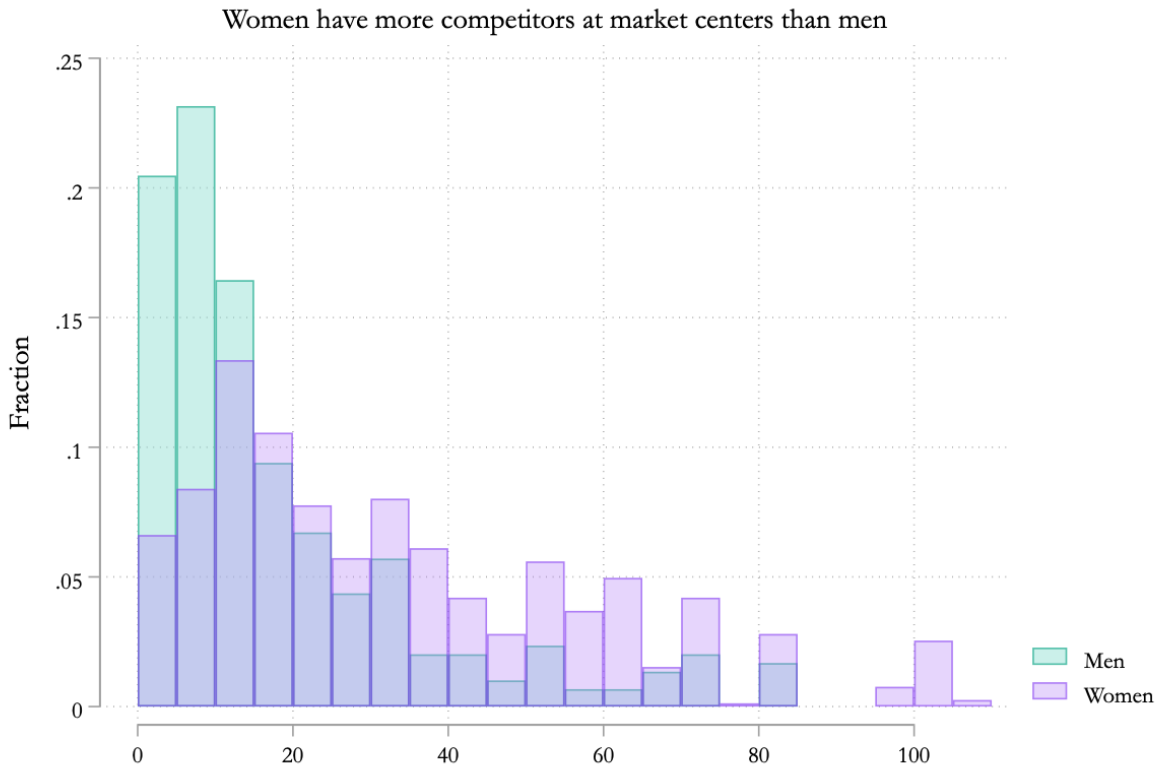

Figure 2: This figure shows the distribution of competing firms within 1km of the business among the sample of businesses located at the market center, disaggregated by sex.

Figure 3 — Women with more childcare burden more likely to run business from home

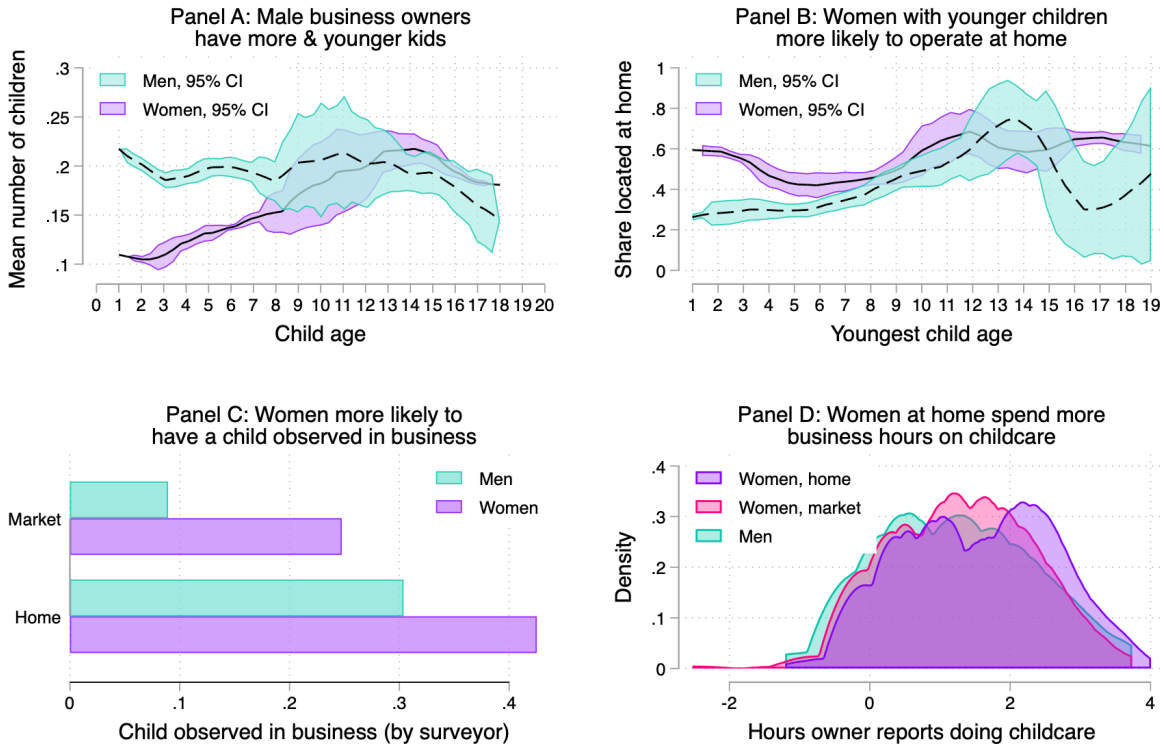

Figure 3: Data comes from our 2021–2022 surveys of entrepreneurs. **Panel A, B:** People with more than one child are included more than once. The y-axis variables are smoothed with a local polynomial regression (Stata's lpolyci). Any given labelled child age x includes children between $x-1$ and x, inclusive (so infants are included in child age 1). **Panel C:** Whether the childcare is observed in the business is recorded by the surveyor. **Panel D:** Density plots the answer to our survey question, "Of the X hours you spent operating your business last week, how many of those were you also taking care of X child?" where X is a specific child owner reported earlier. We then sum over all owner's children.

Table 1 — Estimating the gender profit gap

Sample (dependent var)	(1) Full sample	(2) No From Home Firms	(3) Full sample	(4) Full-Time Firms (>35 hours)	(5) Firms in Gender-Mixed Industries
Owner female	-0.458***	-0.533***	-0.191**	-0.224**	-0.160
	(0.073)	(0.082)	(0.089)	(0.103)	(0.111)
Business operates from home			-0.154**	-0.246***	-0.205*
			(0.074)	(0.094)	(0.111)
Owner Characteristics	No	No	Yes	Yes	Yes
Business Sector Fixed Effects	No	No	Yes	Yes	Yes
Business Characteristics	No	No	Yes	Yes	Yes
Observations	3,162	1,915	3,161	2,107	2,016
R^2	0.016	0.352	0.489	0.561	0.577
Mean profits, men	7.899	8.137	7.899	8.129	7.823

Table 1: For columns labeled "log profits", the dependent variable is the log of monthly profits. For columns labeled "profits/hour", the dependent variable is the profits earned last week (winsorized at 1% level) divided by hours worked per day times days worked last week. Small firms are firms whose initial investment (in Ksh) was in the bottom quartile, or less than 500 KsH. Robust standard errors in parentheses. Owner and business characteristics are those chosen by PDS LASSO. * p<0.10, ** p<0.05, *** p<0.01.

TABLE 2 — SELECTION INTO LOCATION BY GENDER

Dependent variable	**From home**	**In market**	**From home**	**In market**
	(1)	(2)	(3)	(4)
	Women		Men	
Owner education (years)	-0.011***	0.009**	-0.017***	0.016***
	(0.004)	(0.004)	(0.005)	(0.005)
Owner age	0.000	-0.000	0.003**	-0.002
	(0.001)	(0.001)	(0.002)	(0.002)
Industry: Food	-0.064	0.060	-0.333	0.441**
	(0.148)	(0.151)	(0.255)	(0.211)
Transport	-0.404***	-0.310**	-0.450*	0.478**
	(0.149)	(0.151)	(0.251)	(0.208)
Food Processing	-0.016	0.003	-0.329	0.023
	(0.150)	(0.153)	(0.252)	(0.203)
Retail	0.220	-0.127	-0.221	0.131
	(0.148)	(0.151)	(0.251)	(0.202)
Services	-0.028	0.084	-0.379	0.434**
	(0.150)	(0.153)	(0.252)	(0.206)
Manufacturing	0.197	-0.122	-0.112	0.203
	(0.159)	(0.159)	(0.252)	(0.203)
Number of children aged <= 2	0.059*	-0.071**	-0.019	-0.022
	(0.030)	(0.028)	(0.029)	(0.037)
Number of children aged 3-8	-0.017	0.021	-0.026	0.080***
	(0.015)	(0.015)	(0.017)	(0.019)
Number of children aged 9-18	-0.010	0.001	-0.007	0.012
	(0.008)	(0.008)	(0.010)	(0.011)
Observations	2,271	2,271	642	642
R^2	0.078	0.042	0.108	0.163
Mean Dep Var	0.425	0.347	0.269	0.442

Table 2: The outcome variable is either from-home or from-market location. Robust standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01

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8 Appendix

8.1 GE survey waves

In figures where we present data over time, we have constructed a panel data set from the following survey waves conducted by the Egger et al. (2022) team:

1. **Baseline Census and Survey (2014–2015)**: First, a census of all firms in the study area was conducted. Then, 20 firms were randomly selected in each village or market for inclusion in the baseline. If fewer than 20 firms were found during the village census, then all firms in that village were surveyed. Baseline surveys were conducted September 2014–August 2015 and covered a range of topics including owner background, profits, and firm operations.

2. **Endline 1 Census Survey (2016–2017)**: Another census of all firms in the study area was conducted between November 2016 and April 2017 in order to capture entry and exit since the previous census. Up to 5 firms per village were randomly sampled to be surveyed as part of Endline 1. Endline 1 firm surveys were conducted from X and Y 2017 and covered similar topics as in the Baseline.

3. **Endline 2 Census (2019)**: Another census of all firms in the study area was conducted between September–December 2019 so that the study sample could be redrawn to account for potential firm openings and closures in the period since Endline 1. It was intended that all firms from Endline 1 and a random sample of newly operating firms would be targeted for inclusion. However, due to the pandemic and associated lockdowns, Endline 2 was postponed until March 2021.

4. **Endline 2 Survey (2021–2022)**: All firms targeted during Endline 1 were included, as was a representative sample of firms that had opened in the intervening period between Endline 1 and Endline 2. Endline 2 surveys were conducted in two waves, one in March 2021, and one in January 2022. The content of the Endline 2 surveys is largely similar to that of previous rounds, however this round also included a module on fertility of the respondent.

8.2 Variables provided to PDS Lasso

Owner age in years, owner education in year, business age in years, (log) of the initial investment in the business (Kenyan Shillings), number of current employees, hours open per day in the last 7 days, whether the business is licensed, whether it accepts mobile

money, whether it owns stock, value of machines owned (Kenyan Shillings), whether it owns buildings, value of building owned (Kenyan Shillings), whether it owns land, value of land owned (Kenyan Shillings), and total investment in assets last month (Kenyan Shillings), whether the saturation status of the sublocation in which the business is located is high or low, number of days the business is open per week, the distance from the owner's household to their business (km), the distance to the closest market (km), business sector, operating capacity (), survey wave in which data was collected (early 2021 or 2022), whether it operates from home, whether it operates from a market, the share of enterprises operating in the same sector within 1, 3, and 5 kilometers, the number of households within 1, 3, and 5 kilometers, and whether the business is a monopolist in its sector within 1 and 3 kilometers.

8.3 Appendix figures and tables

FIGURE A1 — RELATIONSHIP BETWEEN GENDER, LOCATION, AND PROFITS OVER TIME

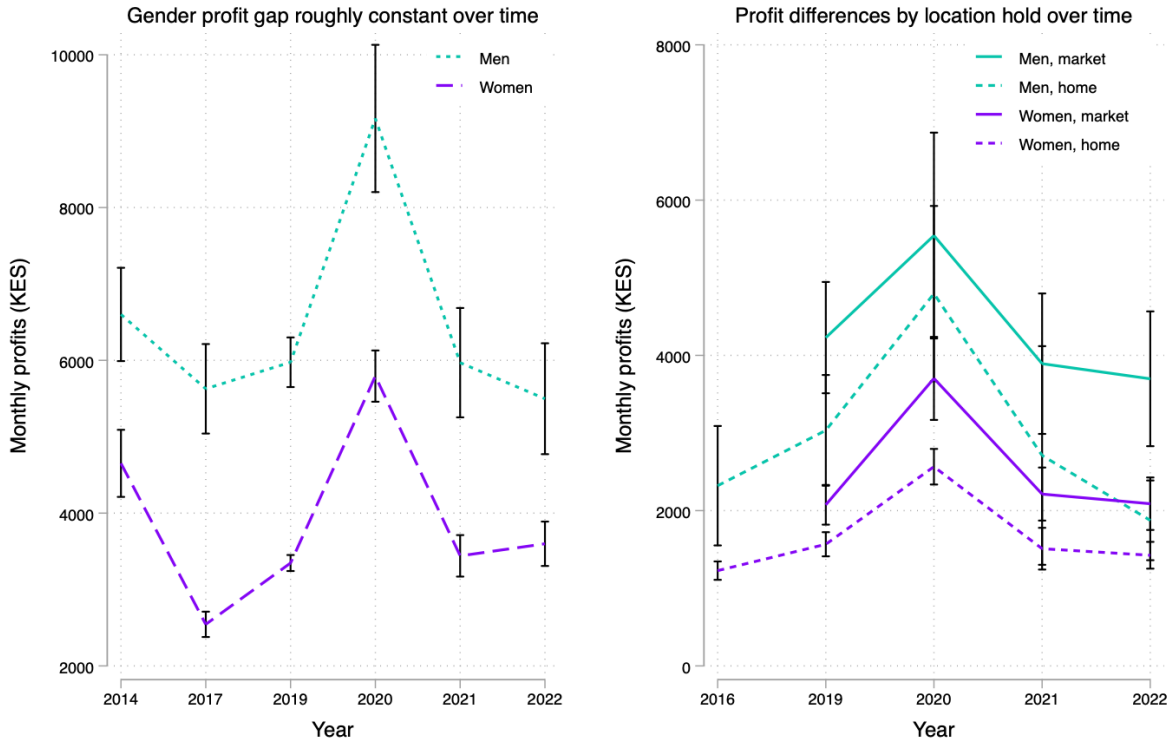

Figure A1: The left figure shows the mean monthly profits for men and women, for each year we have data, with 95% confidence intervals for each mean. The data in this figures comes from repeated cross sections of surveys conducted over time by the GE team. The data are not following the same businesses over time. The pattern is similar when we use the businesses for which we have panel data. We note that our 2020 data point relies on phone surveys; all other rounds were conducted in-person. Market data is not available before 2019. No location data is available for 2014, so we exclude that year in figures that present location over time.

Figure A2 — Monthly profits by gender

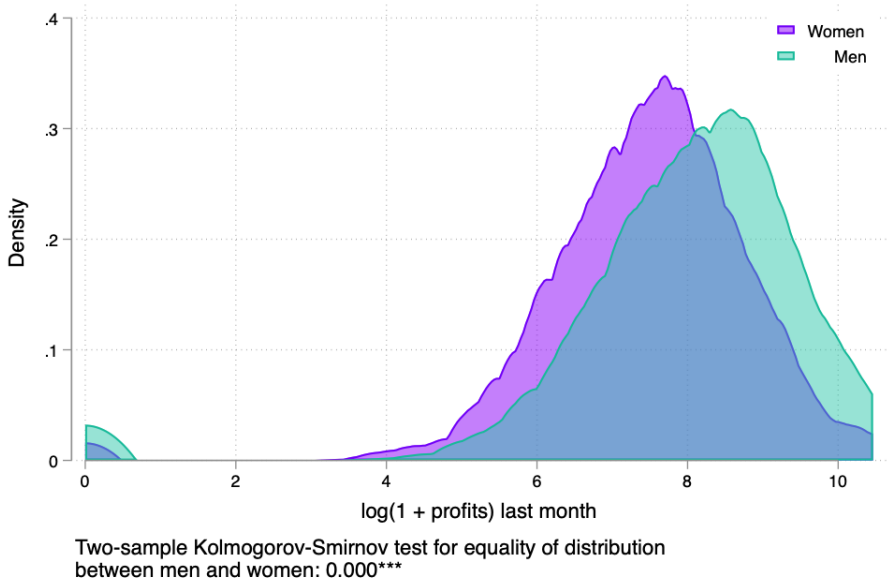

Figure A2: Data is from surveys conducted in 2021 and 2022. The monthly profits are winsorized at the 1% level, leading to a truncation on the right hand side of the distribution. The bump in the distribution around zero represents businesses with zero profits that the density estimation is smoothing.

Figure A3 — Men outearn women even in women-dominated industries

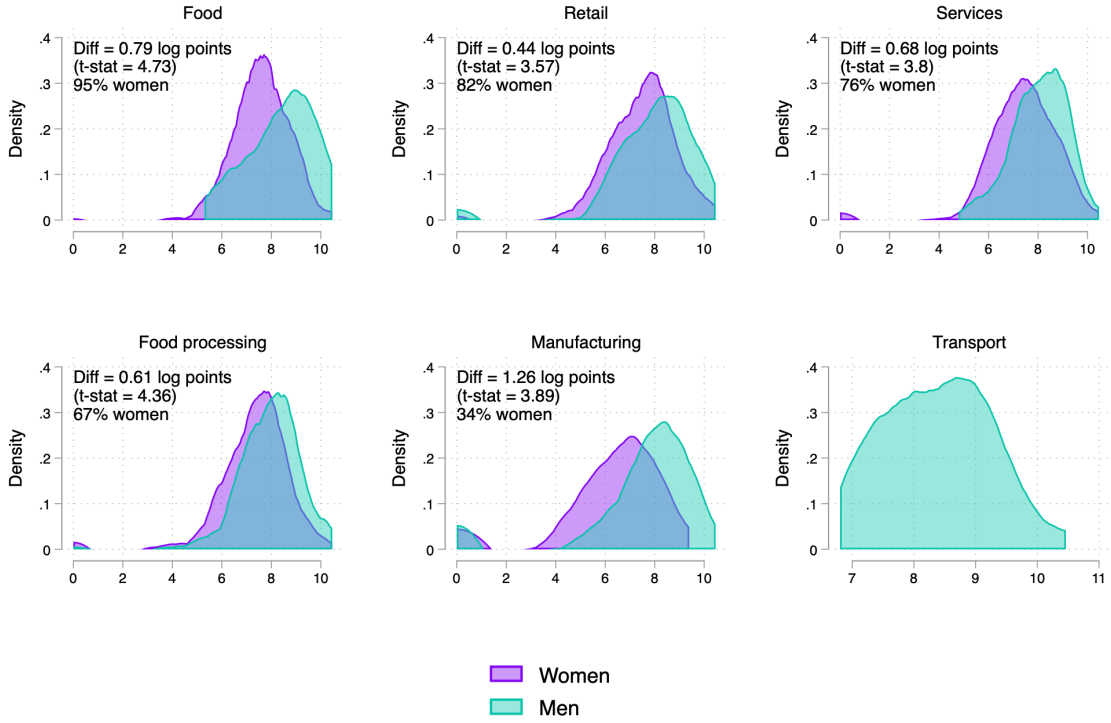

Figure A3: This figure plots the density distribution of the (log) monthly profits by gender, by industry. We show the difference in means for each distribution, the t-statistic associated with that difference in means, and the percentage of women owners in that industry. Only three women operate in the transport sector, so a density distribution is not shown for women in that sector. Data is pooled cross-sectional data from surveys that happened in 2021 and 2022. Services includes hospitality.

Figure A4 — What share of owners in each industry are women?

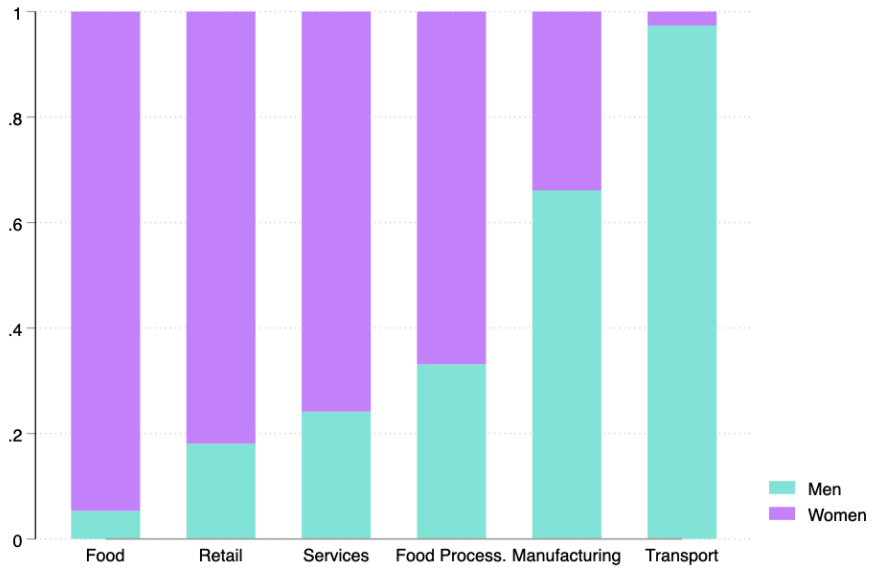

Figure A4: Services includes hospitality.

Figure A5 — Women owners more likely to operate from-home over time

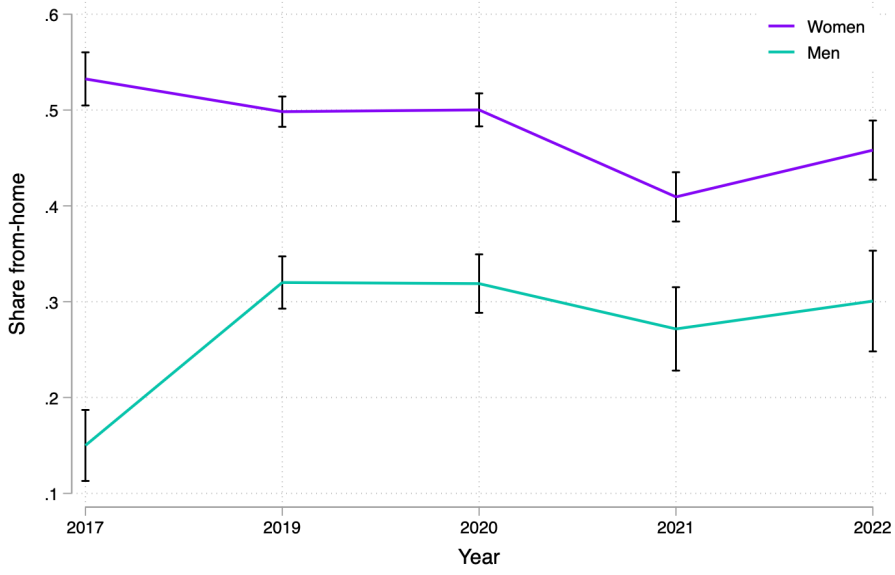

Figure A5: No location data is available for 2014, so we exclude that year in figures that present location over time.

Figure A6 — Study area of Siaya County, Kenya

Figure A6: Credit: NordNordWest. License. Source.

FIGURE A7 — LOCATION OF ALL BUSINESSES CENSUSED IN SIAYA COUNTY AS OF 2019

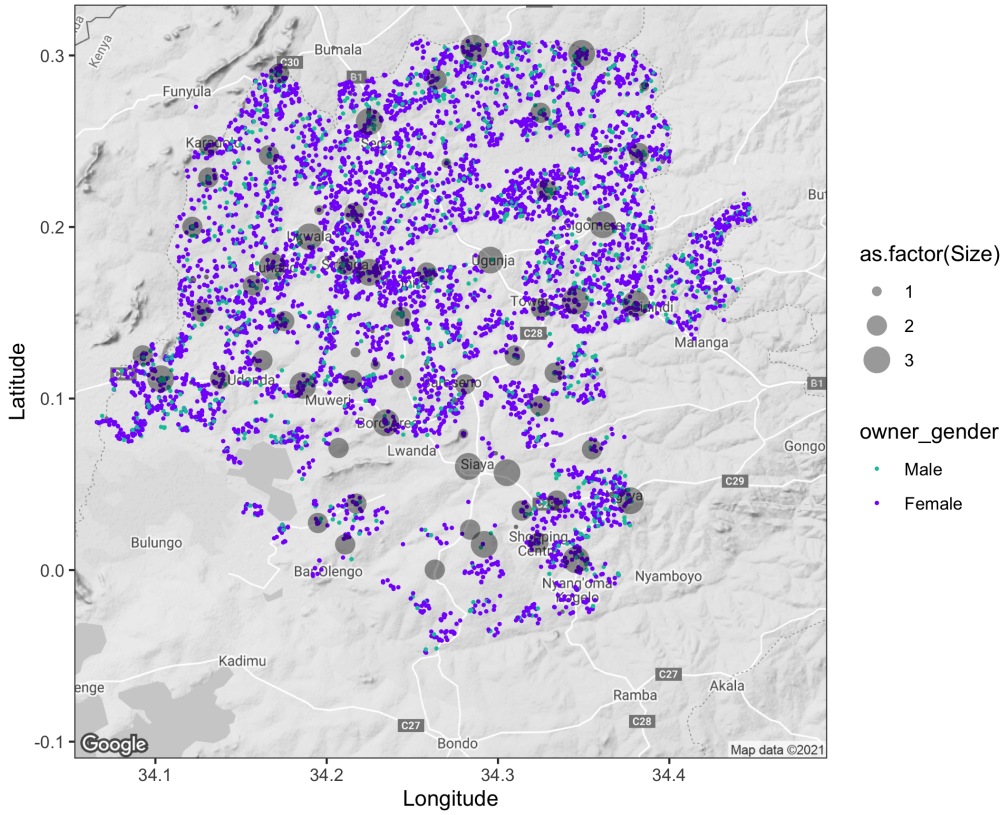

Figure A7: This figure shows the location of all businesses censused in 2019 in our study area. Grey circles represent market centers, bigger circles indicate larger market centers.

TABLE A1 — PROFIT GAPS FOUND IN OTHER STUDIES

	N	M Profits	F Profits	Country and Context
Berge et al., (2015)	644	618.22	531.44	Microfinance clients, Tanzania
de Mel et al., (2009)	387	4735.00	2819.00	SMEs, Sri Lanka
Fiala (2017)	1550	387.66	259.89	Two trading areas, Uganda
Hardy and Kagy (2018)	417	217.00	115.00	Garment firms, Ghana
Nix et al., (2015): Congo*	904	199.45	116.21	Urban HHs, 2009
Nix et al., (2015): Ghana*	3377	130.55	81.12	Households, 2005/2006
Nix et al., (2015): Rwanda*	1312	48.72	26.87	Households, 2005/2006
Nix et al., (2015): Tanzania*	5080	81.60	44.32	Households, 2005/2006
Dupas & Robinson (2013)	500	564.00	1116.00	Vendors & drivers, rural Kenya
Delecourt & Fitzpatrick (2021)	309	597.71	250.26	Drug shop owners, Uganda

Table A1: Papers indicated with an * are based upon nationally representative household survey data.

TABLE A2 — SUMMARY TABLE

	Mean	Min	Max	N
Panel A: Owner characteristics				
Primary owner is female	0.77	0.00	1.00	3,523
Owner age	47.00	18.00	95.00	3,500
Owner education (years)	7.55	0.00	18.00	3,252
Panel B: Business characteristics				
Profits last month, wins 1%	4,077.97	0.00	35,000.00	3,470
Business owned by treated household	0.52	0.00	1.00	2,483
Business in high treated area	0.52	0.00	1.00	3,757
Log profits last month, wins 1%	7.47	0.00	10.46	3,470
Revenue last month, wins 1%	16,903.36	0.00	215,000.00	3,516
Age of business	10.72	0.04	66.17	4,230
Industry: Food	0.33	0.00	1.00	3,952
Transport	0.02	0.00	1.00	3,952
Food Processing	0.14	0.00	1.00	3,952
Retail	0.31	0.00	1.00	3,952
Services	0.10	0.00	1.00	3,952
Manufacturing	0.08	0.00	1.00	3,952
Customers yesterday	11.65	0.00	2,500.00	3,495
Number of employees	0.15	0.00	8.00	3,563
Hours open per day in last 7 days	8.66	0.00	24.00	3,797
Number of days open last week	4.92	0.00	7.00	4,276
Log initial investment in business (KES)	7.68	0.00	13.76	3,803
Value of owned machines (KES)	15,307.94	0.00	2,470,000.00	3,505
Business asset investment (KES)	1,167.65	0.00	500,000.00	3,566
Business is licensed	0.18	0.00	1.00	3,743
Accepts mobile money	0.43	0.00	1.00	3,562
Operating capacity	0.60	0.00	1.00	3,341
Owns stock	0.70	0.00	1.00	3,553
# of customers out of 10 who ask for credit	2.87	0.00	10.00	1,712
...% of customers who repay	0.88	0.00	1.00	1,415
Panel C: Location characteristics				
Business operates from home	0.40	0.00	1.00	3,926
Business operates from market	0.37	0.00	1.00	3,956
Business operates neither from home nor market	0.25	0.00	1.00	3,956
Distance from business to closest market center (km)	1.56	0.00	52.13	3,673
Distance from business to village (km)	0.90	0.00	77.69	3,428
Number of same-sector businesses (within 1 km)	19.39	0.00	111.00	3,673
Number of market centers within 3km of business location	1.51	0.00	5.00	3,673
Business is monopolist in its sector (within 1 km)	0.04	0.00	1.00	4,276
Business is monopolist in its village	0.02	0.00	1.00	4,276

Table A2: Sample size varies across rows because of survey dependencies and missing values.

Table A3 — Balance table by owner gender

Variable	(1) Men	(2) Women	(3) Diff	(4) P-value
Panel A: Owner characteristics				
Primary owner is female	0.00	1.00	1.00	
Owner age	47.73	46.63	-1.09	0.05**
Owner education (years)	8.78	7.17	-1.61	0.00***
Panel B: Business characteristics				
Profits last month, wins 1%	5976.20	3546.31	-2429.89	0.00***
Business owned by treated household	0.50	0.53	0.03	0.26
Business in high treated area	0.53	0.52	-0.01	0.59
Log profits last month, wins 1%	7.78	7.38	-0.40	0.00***
Revenue last month, wins 1%	24252.80	14682.80	-9570.00	0.00***
Age of business	11.12	10.94	-0.17	0.64
Industry: Food	0.07	0.40	0.33	0.00***
Transport	0.09	0.00	-0.09	0.00***
Food Processing	0.21	0.12	-0.09	0.00***
Retail	0.25	0.32	0.08	0.00***
Services	0.11	0.11	-0.01	0.48
Manufacturing	0.25	0.04	-0.22	0.00***
Customers yesterday	11.21	11.56	0.35	0.81
Number of employees	0.38	0.08	-0.30	0.00***
Hours open per day in last 7 days	9.65	8.35	-1.30	0.00***
Number of days open last week	5.98	5.88	-0.10	0.15
Log initial investment in business (KES)	8.76	7.40	-1.36	0.00***
Value of owned machines (KES)	36259.62	7828.36	-28431.26	0.00***
Business asset investment (KES)	3065.74	453.23	-2612.51	0.00***
Business is licensed	0.37	0.13	-0.24	0.00***
Accepts mobile money	0.52	0.40	-0.12	0.00***
Operating capacity	0.57	0.61	0.04	0.00***
Owns stock	0.48	0.76	0.28	0.00***
# of customers out of 10 who ask for credit	2.47	2.96	0.49	0.00***
...% of customers who repay	0.88	0.88	0.00	0.97
Panel C: Location characteristics				
Business operates from home	0.28	0.42	0.14	0.00***
Business operates from market	0.44	0.36	-0.08	0.00***
Business operates neither from home nor market	0.30	0.23	-0.07	0.00***
Distance from business to closest market center (km)	1.43	1.57	0.14	0.01**
Distance from business to village (km)	1.17	0.81	-0.36	0.00***
Number of same-sector businesses (within 1 km)	12.77	21.34	8.58	0.00***
Number of market centers within 3km of business location	1.48	1.51	0.03	0.41
Business is monopolist in its sector (within 1 km)	0.11	0.03	-0.08	0.00***
Business is monopolist in its village	0.03	0.02	-0.02	0.01***
Observations	767	2,666	3,433	

Table A3: Observations are less than 3,433 and vary slightly across rows due to missing values.

Table A4 — Kitagawa-Oaxaca-Blinder Decomposition

	Coefficient	Standard Error	z-score	p-value
Overall				
Men (log monthly profits)	7.937	.074	107.094	0
Women (log monthly profits)	7.503	.031	243.51	0
Profit gap	.434	.08	5.402	0
Endowments	.128	.094	1.363	.173
Coefficients	.262	.109	2.416	.016
Interaction	.043	.123	.35	.727
Endowments				
Location	.058	.013	4.573	0
Owner education (years)	.066	.018	3.599	0
Log initial investment in business (KES)	.06	.022	2.791	.005
Number of employees	.091	.046	1.985	.047
Hours open per day in last 7 days	.06	.013	4.701	0
Value of owned machines (KES)	-.084	.05	-1.689	.091
Business asset investment (KES)	.086	.038	2.263	.024
Business is licensed	.096	.026	3.774	0
Accepts mobile money	.038	.01	3.695	0
Operating capacity	-.048	.018	-2.63	.009
Owns stock	.006	.021	.293	.77
Industry: Food	-.089	.096	-.921	.357
Transport	-.025	.026	-.938	.348
Food Processing	-.003	.031	-.102	.919
Retail	0	.026	.006	.995
Services	-.001	.004	-.254	.8
Manufacturing	-.185	.088	-2.093	.036
Coefficients				
Location	-.031	.123	-.256	.798
Owner education (years)	.125	.165	.759	.448
Log initial investment in business (KES)	-.291	.219	-1.332	.183
Number of employees	-.019	.014	-1.306	.192
Hours open per day in last 7 days	.234	.236	.995	.32
Value of owned machines (KES)	.035	.014	2.559	.011
Business asset investment (KES)	-.015	.006	-2.393	.017
Business is licensed	-.02	.021	-.937	.349
Accepts mobile money	-.022	.061	-.356	.722
Operating capacity	.609	.222	2.75	.006
Owns stock	.316	.132	2.386	.017
Industry: Food	.619	.528	1.174	.241
Transport	.001	.001	.843	.399
Food Processing	.171	.149	1.151	.25
Retail	.449	.452	.993	.321
Services	.2	.156	1.28	.2
Manufacturing	.06	.037	1.628	.103
Constant	-2.161	1.332	-1.623	.105
Interaction - omitted, results upon request				

Table A4: The KOB approach calculates how much of the difference in profits is due to the "endowment" effect (the difference in profits due to observable characteristics, Panel A), a "coefficient" effect (reflecting differences in returns to those endowments, Panel B), and an interaction effect (both, Panel C, omitted). Positive (negative) coefficients imply that an increase in that variable contributes to a widening (narrowing) of the profit gap. The extent to which a factor contributes to the gender gap can be obtained by dividing the coefficient in Column 1 associated with that variable by the total log gender profit gap (.434, row 3).

Table A5 — Estimating the gender profit gap - interaction

Dependent variable	**Log Profits** (1)	**Log Profits** (2)	**Log Profits** (3)	**Log Profits** (4)
From home	-0.873***	-0.392**		
	(0.205)	(0.180)		
Female	-0.465***	-0.213**	-0.241*	-0.148
	(0.083)	(0.096)	(0.125)	(0.119)
Female × from home	0.433**	0.055		
	(0.215)	(0.186)		
In market			0.667***	0.257**
			(0.143)	(0.122)
Female × in market			-0.326**	-0.124
			(0.157)	(0.138)
Owner Characteristics	No	Yes	No	Yes
Business Sector Fixed Effects	No	Yes	No	Yes
Business Characteristics	No	Yes	No	Yes
Observations	2,562	2,562	2,562	2,562
R^2	0.042	0.235	0.030	0.235
Mean profits, men	7.886	7.886	7.886	7.886

Table A5: The outcome variable in all regressions is the log of monthly profits. Robust standard errors in parentheses. Business and owner characteristics are the owner age, education, whether they have an extra child during the study period (after 2014), business age, and value of initial investment in business * p<0.10, ** p<0.05, *** p<0.01

Table A6 — Estimating the gender profit gap - women only

Sample (dependent var)	(1) All women (log profits)	(2) All women (profits/hour)	(3) No Kids Under 5	(4) Full-Time Firms	(5) Female-Dominated	(6) Male-Dominated
Business operates from home	-0.159*	-0.362	-0.077	-0.309**	-0.156**	0.072
	(0.082)	(2.199)	(0.106)	(0.124)	(0.076)	(0.429)
Owner Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Business Sector Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Business Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,468	2,432	1,677	1,553	2,479	661
R^2	0.507	0.475	0.567	0.592	0.528	0.719
Mean profits, men	.	.	.	.	7.951	7.854

Table A6: The dependent variable is the log of monthly profits everywhere, except in columns labeled "profits/hour", where the dependent variable is the profits earned last week (winsorized at 1% level) divided by hours worked per day times days worked last week. Female (male) dominated indicates sectors where most of the owners are women (men). Robust standard errors in parentheses. Owner and business characteristics are those chosen by PDS LASSO. * p<0.10, ** p<0.05, *** p<0.01

TABLE A7 — RELATIONSHIP BETWEEN PROFITS AND BUSINESS LOCATION (WOMEN)

Dependent variable	**Log Profits** (1)	**Log Profits** (2)	**Log Profits** (3)	**Log Profits** (4)
From home	-0.375***	-0.384***		
	(0.061)	(0.066)		
In market			0.342***	0.292***
			(0.061)	(0.063)
Owner Characteristics	No	Yes	No	Yes
Business Sector Fixed Effects	No	Yes	No	Yes
Business Characteristics	No	Yes	No	Yes
Observations	2,652	2,038	2,666	2,046
R^2	0.014	0.210	0.011	0.203
Mean profits, women	7.381	7.488	7.379	7.488

Table A7: The outcome variable in all regressions is the log of monthly profits. Sample size varies slightly across columns due to missing values for some variables. Robust standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table A8 — Balance table – Women located in market versus at home

Variable	(1) Market	(2) Home	(3) Diff	(4) P-value
Panel A: Owner characteristics				
Primary owner is female	1.00	1.00	0.00	
Owner age	46.42	47.52	1.10	0.05*
Owner education (years)	7.37	6.99	-0.38	0.00***
Panel B: Business characteristics				
Profits last month, wins 1%	4165.82	2902.91	-1262.91	0.00***
Business owned by treated household		0.54	0.00	
Business in high treated area	0.54	0.50	-0.04	0.11
Log profits last month, wins 1%	7.60	7.17	-0.43	0.00***
Revenue last month, wins 1%	18131.77	11795.20	-6336.57	0.00***
Age of business	11.65	11.11	-0.54	0.19
Industry: Food	0.48	0.29	-0.19	0.00***
Transport	0.00	0.00	-0.00	0.32
Food Processing	0.13	0.11	-0.02	0.21
Retail	0.23	0.46	0.24	0.00***
Services	0.14	0.08	-0.06	0.00***
Manufacturing	0.02	0.05	0.03	0.00***
Customers yesterday	13.67	10.47	-3.20	0.31
Number of employees	0.11	0.06	-0.05	0.00***
Hours open per day in last 7 days	7.29	9.78	2.50	0.00***
Number of days open last week	5.65	6.18	0.53	0.00***
Log initial investment in business (KES)	7.49	7.26	-0.23	0.02**
Value of owned machines (KES)	7641.37	6203.93	-1437.44	0.34
Business asset investment (KES)	584.35	245.98	-338.37	0.01***
Business is licensed	0.23	0.04	-0.18	0.00***
Accepts mobile money	0.38	0.42	0.04	0.04**
Operating capacity	0.62	0.60	-0.02	0.12
Owns stock	0.81	0.74	-0.06	0.00***
# of customers out of 10 who ask for credit	2.85	3.10	0.25	0.05**
...% of customers who repay	0.88	0.88	-0.00	0.95
Panel C: Location characteristics				
Business operates from home	0.02	1.00	0.98	0.00***
Business operates from market	1.00	0.00	-1.00	
Business operates neither from home nor market	0.00	0.00	0.00	
Distance from business to closest market center (km)	0.58	2.06	1.48	0.00***
Distance from business to village (km)	1.65	0.46	-1.19	0.00***
Number of same-sector businesses (within 1 km)	33.28	15.09	-18.19	0.00***
Number of market centers within 3km of business location	1.54	1.52	-0.02	0.73
Business is monopolist in its sector (within 1 km)	0.01	0.04	0.02	0.00***
Business is monopolist in its village	0.03	0.00	-0.03	0.00***
Observations	974	1,123	2,726	

Table A8: Table is analogous to A3 but restricts comparison to women only. Market centers are neither treated not untreated, so "business owned by treated household" is missing for women working in the market.