Female Entrepreneurship and Trust in the Market

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Abstract

Commerce requires trust, but trust is difficult when one group can expropriate another due to differences in power. This can lead to the weaker group self-segregating into industries and activities; female-led businesses, for example, tend to be small and clustered in a small number of industries where collaborators are also female. We present a model which relates this economic segregation to rule of law, and predicts that female trust depends on the protective preferences of adjudicators in weak rule of law environments. We then show that effective dispute negotiation in Lusaka, Zambia, especially as administered by "market chiefs," enables trusting behavior by female entrepreneurs, both in cross-section correlations and in two artefactual field experiments. Such trust generates increased economic returns. We find considerable heterogeneity across market chiefs in their preferences for protecting women, and that female entrepreneurs are more likely to want to reveal their gender with chiefs who are more likely to favor women.

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1 Introduction

Why are some groups, such as women, systematically under-represented in important collaborative activities, such as business partnerships and scientific coauthorship? Collaboration brings risks, such as hold-up and expropriation, and these can be greater when there are asymmetries of social power and physical strength.[1] In this paper, we test whether female collaboration increases when there is stronger protection against malfeasance within relationships, and what institutions generate that protection in a developing world city.

While our empirical work focuses on entrepreneurship in Zambia, the framework of this paper applies to any male-dominated realm which requires collaboration, such as research in economics. We first present a model that details the conditions under which the more vulnerable avoid engagement with the more powerful, and how institutional intermediaries can either exacerbate or overcome this economic segregation. We then turn to the microdata we collected across entrepreneurs in Lusaka, Zambia, and explore the central implication of our model: that effective dispute adjudication can particularly benefit the weak, allowing them to trade with the strong, to the economic benefit of all. We also design and implement two artefactual field experiments (List and Metcalfe, 2014; List and Rasul, 2011) with a large set of entrepreneurs, which reveal how informal institutions providing dispute adjudication can lead to greater trust and risky economic engagement by women, leading to significantly increased returns.

Women in economic collaborations risk particular vulnerability. 31% of women worldwide have been subject to physical and/or sexual violence (World Health Organization, 2021). Workplace sexual harassment is ubiquitous (Folke and Rickne, 2022; Adams-Prassl et al., 2022). 13% of women in the Swedish labor market report having experienced harassment in the past year, but this figure increases up to 25% in the most male-dominated workplaces (Folke and Rickne, 2022). Studies find that at least 25 percent of women in the workforce have experienced sexual harassment in the US (Feldblum and Lipnic, 2016). These figures in the developing world may be even higher (Lim et al., 2018), as unequal social norms and insecure rights, guiding behavior both at home and in the market, exacerbate physical vulnerability.[2] Given these facts, it is unsurprising that women trust others less.[3]

Section 2 of this paper provides facts about entrepreneurship throughout the globe, which motivate both our model and our empirical work in Zambia. Entrepreneurship remains a male-dominated activity in almost every country in the world (OECD, 2012). Female entrepreneurs cluster in a small number of less profitable female-dominated industries (Cirera and Qasim, 2014; Fairlie et al., 2017; Singer et al., 2018; Berge and Pires, 2021; Essers et al., 2021; Hardy and Kagy, 2020), such as apparel and food production, perhaps because this allows female entrepreneurs to avoid interactions with expropriatory men.[4] This segregation may explain why women appear to receive lower benefits from loans (De Mel et al., 2008, 2009) and business training (De Mel et al., 2014; Berge et al., 2015), especially when norms are more restrictive (Field et al., 2010; Jayachandran, 2020).

Section 3 of this paper presents a model in which the under-representation of more

[1] Despite the change in the relative importance of physical strength in economic activity, women remain vulnerable to expropriation and violence, particularly in male-dominated fields (Wilson and Herrnstein, 1985). Sviatschi and Trako (2021), Eswaran and Malhotra (2011) and Aizer (2010) provide research documenting gender-based violence and examining policies to reduce it.

[2] Adams-Prassl et al. (2022) find that male perpetrators suffer weak economic consequences when they have greater power than their female victims.

[3] Trust is particularly low among women in weak rule-of-law countries. For example, in Africa and South America, typically between ten and fifteen percent of respondents say that most people can be trusted, but that number falls on average by 6 percent among women (World Value Survey, 2004-2014).

[4] This is particularly pervasive in developing world cities (Klapper and Parker, 2011; Campos et al., 2019; Essers et al., 2020; Nordman et al., 2011; Bardasi et al., 2011; Alibhai et al., 2017).

vulnerable groups in economic activity persists because fear of expropriation leads to avoiding engagement in majority-dominated fields. Such missed collaboration represents both a loss to the vulnerable, but also an efficiency loss to society as a whole. Appropriate contract enforcement, particularly with trusted dispute adjudicators, can help to mitigate the losses that come from missed collaboration.

In our model, women choose whether to become entrepreneurs and whether to partner with men. If their partners' cheat, they have access to an adjudicator, who resembles an institution we study in the Zambian setting: the urban market chief. These adjudicators, like those chiefs, may disproportionately favor their powerful friends or they may see their mission as protecting the weak. If the adjudicator fails to punish misbehavior, then entrepreneurs can rely on their own "social power" to punish misbehavior, perhaps by harming cheaters' reputations. In the adjudicator regularly intervenes, which was see as a strong rule of law environment, then the preferences of judges do not matter. In weak rule of law environments, then adjudicators' tastes end up determining whether the weak get protection.[5]

World Justice Project evidence suggests that courts generally favor men[6] but there is a paternalistic strain that often appears in traditional leaders and that can protect women. When adjudicators favor the powerful, then women will not partner with strong men.[7] In that case, we extend Behrer et al.'s (2021) result that when adjudicators are weak, the strong trade only with the strong and the weak trade only with the weak.[8]

The model suggests that adjudicator preferences can be assessed by knowing whether women want their gender to be revealed during an adjudication process. In our model, unsurprisingly, women prefer to reveal when adjudicators favor the less powerful. We consequently expect to see more partnership between women and men in markets where women prefer to reveal their gender.[9]

The model's key implication is that better contract-enforcement institutions can overcome female vulnerability in entrepreneurship, particularly in male-dominated fields. Consequently, we expect more gender segregation in weak rule of law environments. This is also a testable implication of our model. Better adjudication increases the returns to female entrepreneurship since anarchy privileges male aggression and violence.[10]

We test our model using our Census of Entrepreneurs in Lusaka, Zambia, which we overlay with artefactual field experiments embedded in the country's urban markets. Zambia is a country with both weak rule of law and discriminatory gender norms.[11] Yet it is also a

[5]This explains Sandefur and Siddiqi (2013)'s finding that women are much more likely to choose the formal legal system when they have that option.

[6]All over the world, women also face disadvantages in accessing fair legal resolution. For instance, 28% of respondents in the World Justice Project say that being a woman represents a disadvantage with the local police. This share goes from a high of 48%, 33% and 32% in Latin America, MENA and Africa to a low of 14% in Europe and North America.

[7]Family firms can allow women to partner with male relatives who may be less likely to exploit them, but Mehrotra et al. (2011) find no correlation between the prevalence of such firms and norms of gender differentiation.

[8]We relate to the literature on court enforcement and firm outcomes (Ponticelli and Alencar, 2016; Cahuc et al., 2024).

[9]These results relate to the pathbreaking work of Goldin and Rouse (2000), who document that shrouding women's gender is useful in some, but not all, parts of the audition process.

[10]Our framework can account for the rich empirical evidence on inter-gender relationships in group work and scientific production (Boschini and Sjögren, 2007; Lissoni et al., 2013; Sarsons et al., 2021; Coffman, 2014; Aman-Rana et al., 2021; Shan, 2021). Previous work has highlighted that men (are able to) get more credit than women for joint work and that women's performance worsens in mixed-gender settings, implying that women will seek to work with other women (either through the choice of fields or co-workers). We propose an overarching framework and a mechanism through which gender gaps may be mitigated.

[11]According to the World Justice Project (http://data.worldjusticeproject.org/), Zambian rule of law is neither particularly good nor particularly bad for sub-Saharan Africa. The country's score on the World Justice Project's Rule of Law Index in below Ghana and South Africa, but above Zimbabwe and Nigeria, and

country in which chiefs often protect the weak, and we will focus on testing whether women partner more when they have a chief who favors the vulnerable.

To empirically study power, gender, and collaboration in business, we collect geocoded data on more than 2000 firms, which represents sixty percent of all the manufacturers in Lusaka. Interviews and focus groups suggest that economies of scale can generate large returns to collaboration for these entrepreneurs, in activities such as lending machines to each other or subcontracting workers (as also suggested by Bassi et al. (2021) and Hardy et al. (2024)).[12] In our sample, twenty-seven percent of the entrepreneurs in manufacturing are women, and women earn slightly more than one-half of male earnings. In Lusaka, three-fourths of female entrepreneurs make apparel and eighteen percent make food. Between one-half and three-fourths of the gender earnings gap for Lusaka entrepreneurs can be explained, in an accounting sense, by the clustering of female entrepreneurs into the least profitable industries. While many factors contribute to the segregation of women in these industries, in our qualitative work, Lusaka's female entrepreneurs repeatedly emphasized the difficulties of trusting men.[13]

In Section 4, we present our survey measures of trusting behavior, such as working collaboratively to fill an order or jointly buying inputs or even giving advice. As the model predicts and our qualitative work suggests, women are less likely to take actions that require trust. Perhaps most strikingly, we find that women are much less likely to learn their trade from incumbent workers. Instead, they turn more often to formal educational institutions.[14]

We then test whether Lusaka's female entrepreneurs trust and collaborate more when contract enforcement is stronger. We focus on major local institutions that adjudicate commercial disputes: the Small Claims Court (SCC), the Police, and Market Chiefs. Few entrepreneurs in our sample made any use of Zambia's formal court system, and most of them rely on local adjudicators known as "Market Chiefs", who exercise authority over transactions that occur within their own local market areas. The second most-used institution is the police, which is however deemed to be relatively slow and resource-constrained– and more so by women. We measure institutional strength by proximity to the SCC or the Police and location within a market that is adjudicated by a chief. We find that female-led businesses located inside formal markets or closer to the Small Claims Court cooperate more, even controlling for business density, marketplace and industry fixed effects. The gender gap in sales is also smaller within markets.

Building on this evidence, in Section 6 we test the key prediction of our model that women should disproportionately benefit from access to adjudicators who will protect them from expropriation. This implies that the average impact of institutions may mask substantial heterogeneity depending on the degree of biasedness of the adjudication process, and that women should benefit the most when institutions are unbiased or more likely to protect the weak. As the overwhelming majority of our respondents had either not heard of the Small Claims Court or thought that it was not useful for people like them, we focus on the institution of market chiefs.

First, we collect individual measures of gender bias, legal competence and managerial

is about the same as Russia and Mexico.

[12]Bassi et al. (2021), for example, show that inter-firm cooperation is key to achieving scale in small manufacturing in Uganda. While their data do not focus on gender, the sectors they study — carpentry, grain milling, metalwork — are likely male-dominated. Our findings suggest that in male-dominated sectors, female entrepreneurs may be less able to enter or scale through partnerships, not because of skill or capital constraints, but because collaboration entails higher enforcement risk.

[13]Zambia's female entrepreneurs both say that they trust others less, and indeed are less trusting in standard laboratory measures.

[14]Alfred Marshall (1890) emphasized that in dense clusters, "the mysteries of the trade become no mystery but are, as it were, in the air," but it seems as if female entrepreneurs cannot access these human capital spillovers in Lusaka, partially because they cannot trust the men that surround them.

duties among Lusaka's market chiefs. Consistent with the model, we show that women inside markets with unbiased chiefs cooperate as much as men do, while a large gender gap in cooperation persists in markets with a chief characterized by high gender bias.[15]

We then move beyond observational evidence and conduct two artefactual field experiments with our population of entrepreneurs. We use an adapted version of the trust game (Berg et al., 1995), framed as an opportunity to invest in another person's business, and involve real adjudicators in the game. The two experiments allow us to ask whether institutional access enables women to trust in business interactions depending on how adjudicators use their authority. In Experiment 1, we examine the effect of access to a gender-blind chief on trust and cooperation, benchmarking it against two alternatives: the absence of any enforcement mechanism and access to a formal legal institution. In Experiment 2, we allow chiefs to observe the participants' gender, reintroducing the possibility of personalized enforcement. Together, the experiments explore two institutional paths to inclusion: one through formal neutrality, and one through contextualized protection. We use both behavioral outcomes and original measures of adjudicator attitudes and participant expectations to understand which institutional features most effectively support inter-gender economic collaboration.

In the first experiment, the game replicates our survey results and echoes the model: the control group shows a significant gender gap in both trust and trustworthiness, with women sending fewer tokens and returning fewer tokens than men in our game. Sending money in the trust game is positively correlated with our actual measures of cooperation by the participants in their real lives. In the treatment group, providing access to a gender-blind chief significantly increases women's trusting behavior, increasing the surplus for both parties and earnings for both women and men.

We find that access to a gender-blind adjudicator—particularly one embedded in familiar, informal structures—can increase trust and close the gender gap in risky collaboration. However, real-world institutions rarely operate in the blind. Market chiefs often know the individuals they serve and may factor social identities, including gender, into their decisions. This raises a critical question: when institutions do see gender, does this visibility reduce or reinforce power asymmetries?

In our second experiment, we explore how women's trust responds when gender is visible to the adjudicator, and whether that visibility helps or harms them. Specifically, we test whether institutions that recognize group identity—in this case, gender—can improve trust for vulnerable populations, and under what conditions this recognition is perceived as protective versus biased. This experimental variation allows us to test the full theoretical model, particularly the prediction that women will prefer to reveal their gender when chiefs have preferences to protect the vulnerable.

We find that revealing a participant's gender to their own market chief increases trust among women. This effect — the revelation trust premium — is larger for women who express a stronger preference for gender revelation and in markets where chiefs display more favorable behavior toward women in the game. Consistent with the model, the magnitude of the effect varies across markets with the chief's gender bias and women's relative power.

Together, the two experiments illustrate a broader point: when formal legal systems are weak or inaccessible, local institutions can fill the gap. In their gender-blind form, they can mitigate power asymmetries and facilitate trust. But when designed—or perceived—to protect the vulnerable, identity-aware institutions can go even further, enabling high-risk, high-return collaboration for those most in need of institutional support.

[15]The chief's level of gender bias is not correlated with the share of female manufacturers within a market (correlation coefficient = -0.05, $p = 0.66$), indicating that we are not simply capturing a selection effect of women-friendly market chiefs being elected in markets with more female businesses.

The results of our experiments reveal that local informal institutions can play a vital role in fostering economic collaboration—particularly when they act as protectors of the weak. Women, who face greater risks in mixed-gender business interactions, are not simply seeking neutrality—they are, in some cases, seeking allies. Chiefs, though embedded in local norms, can function as benevolent adjudicators, and women respond strategically to this possibility. In contrast to the conventional wisdom that anonymity protects the vulnerable, our findings show that being visible to a fair institution can itself be empowering.

This paper connects to several literatures. By positing that the risks associated with incomplete contracts and imbalances in social power can deter women from engaging in potentially profitable activities, relates to research on occupational gender segregation and female vulnerability in predominantly male sectors (Cortes and Pan, 2018; Folke and Rickne, 2022; Adams-Prassl et al., 2022). Our findings particularly follow the seminal work of Udry (1996) on intra-household inefficies, as we find that women's lower engagement in high-return activities may reflect rational responses to risks of expropriation or exploitation. Our work also relates to research on the role of courts in shaping firm outcomes (Johnson et al., 2002; Ponticelli and Alencar, 2016; Chemin, 2020; Aberra and Chemin, 2021; Sadka et al., 2024; Rao, 2024) and on differences in the use of formal institutions by social standing (Sandefur and Siddiqi, 2013; Britto et al., 2025).[16]

Our paper suggests that fear of expropriation in environments characterized by asymmetric power may help explain the persistent gender gaps in entrepreneurship and industrial segregation by gender in low-income countries (McKenzie and Woodruff, 2017; Campos et al., 2019; Jayachandran, 2020; Ubfal, 2024). Hardy and Kagy (2018, 2020) show that women-owned businesses in Ghana tend to cluster in highly competitive, low-return sectors. Our paper provides a potential explanation: if women disproportionately avoid industries or occupations where contract enforcement is critical, they may be left with a narrower—and more crowded—set of viable opportunities. We do not want to claim that the strategic avoidance of collaboration or growth explains these gaps more than talents or tastes, but we hope that future work can explore the relative importance of all of these factors.

The paper proceeds as follows. Section 2 provides some motivating facts about female entrepreneurship. Section 3 presents our theoretical model. Section 4 describes our Zambian empirical setting and data. Section 5 presents evidence on gender gaps in entrepreneurship among small-scale entrepreneurs and the potential mitigating role of local adjudicators. Section 6 presents measures and experimental variation of institutional quality, which allows us to show the causal impact of access to contract enforcement mechanisms on female business collaboration. Section 7 concludes.

2 Motivating Facts about Female Entrepreneurship Around the World

In this section, we document three facts about female entrepreneurs globally: the rate of female entrepreneurship is low, female entrepreneurs earn less than male entrepreneurs, and they segregate into a small number of industries. These facts motivate our theoretical model, and the empirical work that follows.

Entrepreneurship is male dominated: globally, only one in 3 businesses is owned by women (Halim, 2020). In the U.K., France, Germany and U.S., more than two men select

[16] See also Marx et al. (2019) and Balán et al. (2022) on the role of local intermediaries in shaping outcomes for citizens and local governments in urban areas of low-income countries.

into entrepreneurship for every nascent female entrepreneur (GEM[17], Singer et al., 2018; Fairlie et al., 2017). Gender gaps in entrepreneurship in developing countries are of similar magnitudes, although with higher heterogeneity across business size, sector and geographical region. Female ownership of businesses varies from a low of 18% in South Asia to a high of 50% in Latin America and the Caribbean (Halim, 2020). Limited female engagement in entrepreneurship not only reflects underused talent, but also carries significant aggregate costs for economic growth (Chiplunkar and Goldberg, 2024).

We replicate these results using three World Bank data collection efforts: the 2006-2024 waves of the Regular Enterprise Survey (WBES), covering a representative sample of registered businesses with more than five employees across sectors; the survey of micro-enterprises, covering businesses with five employees or less; and the survey of informal enterprises, covering businesses that are not formally registered. We define female-owned firms as those in which women hold majority or full ownership.[18]

Figure C.1 shows that the median country in the regular WBES has slightly more than 10% of firms owned by women.[19] This share increases to approximately 30% among informal and micro firms, perhaps pointing to gender barriers in formalization and growth. The rates of female entrepreneurship differ significantly across countries, although very few countries have a clear majority of firms led by women. Some of the lowest rates are found in North Africa and the Middle East, reflecting an important influence of religion (Ashraf et al., 2025).

Across the entire sample of formal firms from the regular WBES, male-led firms average 0.93 log points higher sales than female-led firms, controlling for the year of data collection (women's mean sales 60.5% lower than men's).[20] The overall sales gender gap decreases to 0.72 log points (women's mean sales 51.3% lower than men's) when controlling for ISIC3 industry code, year and nation (K-S test p-val = 0.01). As seen in Figure C.2, the distributions differ especially in their right tail, suggesting that women hit a cash ceiling to their earnings.

The sales gender gap is smaller among formal and micro firms than in larger firms, supporting findings that structural barriers like limited access to capital or networks may disproportionately hinder women's ability to scale their businesses (Campos and Gassier, 2017; Jayachandran, 2020).

Strikingly, female entrepreneurship is very concentrated in a small number of industries with lower average returns. This concentration has been documented in several countries at different levels of development (Goldstein et al., 2019; Hardy and Kagy, 2020; Campos et al., 2014; Alibhai et al., 2017). According to the regular enterprise survey, the three industries with the greatest proportion of female managers across countries are retail trade, food products and beverages manufactures, hotels and restaurants. According to the WBES, while women only own 14% of all manufacturing firms, they own 21% of enterprises in food and apparel production. The cross-country average of the Herfindahl–Hirschman index (HHI) of industrial concentration is 0.13 for female-led businesses, significantly greater than

[17]The Global Entrepreneurship Monitor (GEM) survey is collected across countries and, for each country, at least 2000 adult entrepreneurs/business managers are surveyed. It interviews nascent and established entrepreneurs and excludes people who are considered to be out of the labor market. Specific information can be found here https://www.gemconsortium.org/wiki/1157.

[18]We exclude firms with equal ownership, as it is unclear whether women are in charge in those cases. Following Hardy et al. (2022), we compare female entrepreneurship across the three World Bank enterprise datasets. They further show that gender shares in the regular WBES are similar to those in nationally representative surveys such as the Living Standards Measurement Study (LSMS) when restricting to firms with five or more employees.

[19]The distribution looks similar when considering female-led businesses as firms with at least a female owner.

[20]We focus on the revenue differences between female-led and male-led firms, as the World Bank surveys provide more reliable measures of revenues than profits.

the 0.04 average HHI for male-led businesses (p=0).[21] Segregation persists among informal and smaller firms. Among the micro-enterprises interviewed by the World Bank, 56.36% of those led by women are in the textiles, hospitality (hotels and restaurants), retail vending and food production sectors, while only 40.33% of male-led firms belong to these sectors. Additionally, the industries that women choose to enter have a greater proportion of peers, customers and employees of the same gender. On average, 50% of the full-time workforce in female-led firms is made up of women, almost twice the amount as in male-led firms (28%). Similarly, 60% percent of female-owned firms have a female top-manager, as opposed to only 7% of male-owned firms.

This gender segregation has been explained by preferences over fields of work and flexibility that certain industries offer, often shaped by social norms (Goldin and Katz, 2011; Campos and Gassier, 2017). In this paper, we explore an additional explanation: working in female-led industries shield female entrepreneurs from workplace interactions with men, which can make them vulnerable to expropriation.

3 A Model of Female Entrepreneurship, Gendered Power and Contract Enforcement

We now present a model where female entrepreneurs undertake collaborative tasks with partners who may cheat or expropriate them. Our goal is both to generate predictions about the link between cooperation and protective institutions, and to understand the determinants of female entrepreneurship more broadly. Indeed, a prominent advantage of urban density is enabling interactions, but that advantage can be lost or reversed if distrust erodes collaboration.

We assume that gender interacts with collaboration because it shapes the available punishment. We assume that there are two mechanisms that discipline bad behavior. First, there is "private punishment," which might include violence or non-violent abuse or reputational penalties generated by disparaging remarks. If women are less violent or have less social power, then they will have less private punishment ability. Second, there is "public punishment," in which an arbitrator or "chief" may intervene, and restore the harm done. That chief may intervene more to protect the weak.

Formal judicial systems are typically seen as less accessible to both the poor and to women. The World Justice Project (2023) reports that "in nearly 90 percent of countries, people living in poverty tend to face greater barriers to justice than those not living in poverty," and "women face greater barriers to justice than men in nearly 70 percent of the countries surveyed." However, courts are far less relevant in our setting. Globally, The World Justice Project (2024) ranked Zambia 119th out of 142 countries in whether "people can access and afford civil justice." Market chiefs, rather than local magistrates, are the natural source of justice.

Market chiefs are a local institution that have taken on much of the role of a traditional and widespread rural institution (the "chief"), adapted to an urban setting. While "Zambian chiefs have few legally recognized powers," they "have unofficial courts in which they adjudicate cases" (Baldwin, 2018). Palagashvili (2018) writes that "the chief is also called upon to resolve legal disputes regarding violations of contracts," even though "contracts in indigenous societies were not written, but were formed on the basis of social norms or customs." Logan (2013) uses Afrobarometer data and reports that "the influence of traditional leaders is most evident with respect to solving local disputes, where they are reported to play a greater

[21] For each country, the HHI is computed as the sum over industries of squared shares of female (or male) entrepreneurs.

role than either local or central government" and that in 16 out of 19 countries (including Zambia), a majority of respondents "think that the amount of influence traditional leaders have in governing your local community should increase."

We now turn to the model. In stage 0, a female entrepreneur "E" chooses whether to pay a fixed cost to enter industry i. She knows the share of co-workers who are men (m_i) and the average character of adjudicators within the industry. If "E" does not join the industry, the model ends.

In stage 1, E is offered a business opportunity to make and sell a product of value π. E is also matched with a randomly chosen potential partner "P". Neither E nor P can make the product on their own at a cost less than π. If the parties do not partner, E can either pay π to produce the good or do nothing. In either case, her payoff is zero. If the parties do partner, E can make P a take-it-or-leave-it offer. Like E, P's opportunity cost of time is 0, and so the contract must just compensate P for production costs.

In stage 2, P chooses whether to work or shirk. P can fulfill the contract and pay a cost of $q < .5\pi$ for effort and materials. P can also breach the contract and pay only $q - b$, and we assume that $.5\pi > b - q$. This breach might take the form of P doing shoddy work or of P stealing E's inputs (in which case b may be greater than q). E also pays a cost of q and works during this period.[22]

In stage 3, E pays P the contracted wage for his or her work. This payment is not contingent upon observing whether P has shirked, which can be justified either because P needs the money *ex ante* to perform the task or because E doesn't immediately observe the shirking. We make this payment non-contingent both to match the experiments discussed later, and because the ability to make contingent payments would both complicate the model and the role of the adjudicator.

If P has fulfilled the contract, then E can sell the good and receive π. If P breached the contract, then E must pay a remediation cost of $b + \Delta$. The value of b and Δ are both known at the time of the contract and $\Delta > 0$. If E remediates the harm, then she receives a payment of π. We assume that $2q + \Delta > \pi > b + \Delta$, so that E will always remediate if work has begun, but a partnership will not generate a positive social surplus if shirking always occurs.

We have chosen an "entrepreneurship" frame for this model, because that captures the examples that initially motivated our work, but this model is also equivalent to a standard investment frame. In that frame, E decides whether to invest $2q$ in P in period 1, some of which is meant to be P's salary. In period 2, P's investment increases in value to π. In period 3, the investment is meant to return to E, but P can decide to keep "b" of value for himself, which reduces the value of the investment to E by $b+\Delta$. While the two frames differ because E pays P in period 1 in the investment frame but in period 3 in the entrepreneurship frame, as long as the period 3 payments are unconditional, they are equivalent to period 1 payments.

If P shirks, then E has two potential means of punishment. E can punish P with "social punishment" and E can appeal to an adjudicator, who may be willing to intervene on behalf of the injured party. There is no double jeopardy, so that if the adjudicator intervenes, there is no possibility of applying social punishment. The size of the social punishment that a person can inflict and the probability that they have access to the adjudicator are functions of the "power gap" between the injurer and the injured party. We let θ denote the difference between the power of P and E. While we will typically think of settings in which a male P has more power than a female E ($\theta > 0$), it is possible for θ to take on any positive or negative value. Social punishment costs zero to impose and applies a penalty of $\max[k-\theta, 0]$, independent of the harm done. The adjudicator will intervene with probability $\delta + \alpha\theta$, where

[22] It is never optimal for E to shirk as she is the residual claimant of the product.

α reflects the "protective" instincts of the adjudicator. If the adjudicator intervenes, then the adjudicator will force P to pay E the damages of $b + \Delta$. Consequently, E will always prefer the adjudicator to intervene. We will typically assume that θ is known, at least by E and P, but the model would be unchanged if we treat θ as the expected power difference.

If the parameter α is negative, then the adjudicator favors the mighty and that seems to be true in much of the world. The World Justice Project notes that "in nearly 90 percent of the countries surveyed," they find that "more people living in poverty face barriers to justice than people not living in poverty." Chanock (1998) reports that in colonial Zambia, chiefs often seemed to be biased against women: "The decisions of the chiefs were usually in favor of the man in a marital dispute," and "women, especially in the mixed Chewa/Ngoni areas, and Lomwe migrant, who distrusted the Yao headmen under whom they had settled, used the courts," that had been set up by the British.

Yet there is also evidence that α is positive for at least some African chiefs. Logan (2013) shows, through modern Afrobarometer data, that support for chiefs declines sharply with education, and that "the lack of a gender difference is especially noticeable," which seems to reject that view that the chiefs particularly favor either elites or men. Matsvayi (2012) studies three chiefs' courts in Zimbabwe and finds that two of the courts illustrate "how we can build our traditional systems into a model that ensures many more women, especially rural women, access justice." Baldwin (2016) reports that in Zambia, "40 percent of the chiefs' visitors are seeking assistance in resolving disputes, whereas almost one quarter are looking for economic or financial assistance." She also finds "chiefs benefit, rather than harm, local public goods provision," and that "the deaths of chiefs significantly reduce [...] the building of new schools and the sinking of boreholes." The fact that chiefs supply both charity and public services suggests that many chiefs feel an obligation to help the weak.

We let $\hat{\alpha}$ denote the expectation of α by both E and P. If the adjudicator's identity is known, then $\hat{\alpha}$ will equal α. Otherwise, $\hat{\alpha}$ will equal the population average of α across adjudicators. In either case, the expected probability of intervention is $\delta + \hat{\alpha}\theta$. If the adjudicator does not know θ, then his probability of intervention is based on its expectation. Proposition 1 assumes that the power differential is known by the adjudicator and everyone else. Proposition 2 allows for the possibility that the adjudicator does not know anything about θ, and in that case the probability of intervention is just δ. We will interpret δ as the overall quality of the legal environment, but its value can also be shaped by the preferences of the adjudicator and the circumstances of the case. Murky evidence will make intervention less likely, but some adjudicators may be less tolerant of imperfect knowledge.

Proposition 1 describes the returns to partnering as a function of the relative power of E and P (θ) and as a function of the the overall quality of the legal environment (δ) and the adjudicator's propensity to protect the weak (α):

Proposition 1. *E will always partner with P if $k - b > \theta$, but if $k - b < \theta$, then there exists a value of δ denoted δ^*, which is between $-\hat{\alpha}\theta$ and $1 - \hat{\alpha}\theta$, such that E will partner with P if and only if $\delta > \delta^*$. The value of δ^* is always declining with Δ and k and increasing with b. δ^* is decreasing with $\hat{\alpha}$ if and only if $\theta > 0$, and increasing with $\hat{\alpha}$ if and only if $\frac{\Delta}{(\Delta+b-k+\theta)^2} > \hat{\alpha}$.*

The proposition first notes that when E is sufficiently powerful relative to P, so that θ is less than $k - b$ (which is negative by assumption), then the adjudicator becomes irrelevant. The strong don't need the courts. But when E is weak, she can only stop P shirking (which is necessary for cooperation to occur) when the adjudicator is sufficiently likely to intervene. The threshold level for intervention can be seen as a measure of how likely partnership is to take place, since intervention levels may be different in different markets or at different times, and a lower threshold means that cooperation and female entrepreneurship are more

likely to occur.

The minimum intervention threshold is always falling with Δ, since that drives the punishment meted out by the adjudicator, and k, since that determines the punishment that E can generate without the adjudicator. The threshold is rising with b since that determines the incentive to shirk and a higher value of b make shirking harder to deter. The threshold is rising with α if E is weaker than P and falling with α otherwise, since α determines the response of the adjudicator to weakness. If E is weak, then she wants an adjudicator who is more likely to protect the vulnerable. If E is strong, then she wants an adjudicator who respects strength.

Two of the chiefs discussed by Matsvayi (2012) seem to see their role as protecting women, such as wives who are physically abused by their spouses. That fact suggests a positive α, as we suspect that husbands have a power edge over wives in rural Zimbabwe. By contrast, the colonial chiefs described by Chanock (1998) who favored men and were shunned by female litigants, appear to have a negative α.

If $\alpha < 0$, and the adjudicator favors the strong, then an increase in E's social power increases both her ability to punish outside the court and her likelihood of getting help from the arbitrator. Both factors make it easier to stop P from shirking and make partnership more attractive. If $\alpha > 0$, and the adjudicator favors the weak, then an increase in E's social power still raises her ability to punish outside the court, but makes the adjudicator less likely to intervene. These two forces work against each other, and if $\frac{\Delta}{(\Delta+b-k+\theta)^2} > \alpha$, then the threshold actually falls as E becomes weaker because the advantage of likelier help from the adjudicator is more important than the ability to punish outside the court.

We now turn to the question of masking power, which can be done artificially in a lab setting or might reflect a court setting where the adjudicator just doesn't know the parties involved. We assume that adjudication can either be anonymous, in which case the adjudicator treats the value of θ as zero, or identified. These differences could correspond to literally blind adjudications or settings in which the adjudicator is an outsider who knows nothing about the actors involved and their social milieu.

Proposition 2. *If $k - b < \theta$, and E and P are anonymous so that θ is hidden from the adjudicator but not from each other, then there exists a value of δ denoted δ^{**}, which is between 0 and 1, such that E will partner with P if and only if $\delta > \delta^{**} = \delta^* + \hat{\alpha}\theta$. The value of δ^{**} is always declining with Δ and k and increasing with b and θ. If $\theta < 0$ then E will always be weakly better off in non-anonymous adjudication if and only if $\hat{\alpha} > 0$.*

Proposition 2 shows that hiding one's power is advantageous if you are powerful and the courts protect the weak, or you are weak and the courts defer to the strong. Consequently, if women are weaker, then a woman E would only want to reveal her gender identity with an adjudicator who she expects to protect the vulnerable. As long as the adjudicator displays more care for the weak, then revelation will be appealing because it will increase the probability that the adjudicator acts, which makes partnership and profits more likely. If the adjudicator is hostile to women, which we interpret as $\hat{\alpha} < 0$, then E will prefer anonymity. This proposition motivates looking at heterogeneity across adjudicators in our experiments.

We finally turn to E's decision to enter industry i. We assume that the social power is homogenous within genders, and that the difference across genders is denoted θ_G. We assume that $k > (1 - \delta)b$, so that there is no shirking in within gender partnerships, but that $b > k - \theta_G$, so that men will cheat if there is no possibility other than adjudicator's intervention. Matching between P and E is random so that the probability of receiving a male potential partner in any given period is m_i. We also assume that the expected value of α in the industry is $\hat{\alpha}_i$, and that adjudication is non-anonymous. Finally, we assume that the fixed costs mean that E will enter if and only if expected returns in each period is greater than f_i.

Proposition 3. *If* $\delta + \hat{\alpha}_i\theta_G < 1 - \frac{\Delta}{\Delta+b+\theta_G-k}$*, then women in industry i will not partner with men and they will end the industry if and only if* $(1-m_i)(\pi-2q) > f_i$*. If* $\delta + \hat{\alpha}_i\theta_G > 1 - \frac{\Delta}{\Delta+b+\theta_G-k}$*, then women in industry i will partner with men and men will not shirk and women will end the industry if and only if* $\pi - 2q > f_i$*.*

If $\delta + \hat{\alpha}_i\theta_G$ is low, then women cannot trust men and, consequently, they will only join industries with enough women. If $\delta + \hat{\alpha}_i\theta_G$ is high, then men will not shirk and consequently the gender composition of the industry becomes irrelevant.

4 The Zambian Context: Data and Institutions

In this section, we introduce the Zambian context and our main source of entrepreneurship data, the Census of Small-Scale Manufacturers. We then describe the main adjudicating institutions for entrepreneurs' disputes. Zambia is a natural setting to study weak institutions, gender power asymmetries and female entrepreneurship. Zambia ranks 99th out of 179 countries in the 2019 SIGI index of discrimination within the family and 94th out of 132 countries in the 2019 SIGI index of physical integrity restrictions. Sixty-eight percent of the 2007 World Values Survey respondents in Zambia say that it is justifiable for men to beat their wives in some circumstances, which is the highest share in sub-Saharan Africa.

Zambian rule of law is neither particularly good nor particularly bad for sub-Saharan Africa, but it is in the bottom half of countries worldwide. The country's score on the World Justice Project's Rule of Law Index is below Ghana and South Africa, but above Zimbabwe and Nigeria, and about the same as Russia and Mexico. Zambia's overall index of gender equality and index of gender equality in courts from the World Justice Project are among the lowest in Africa. As of 2024, the country ranks 119 over 142 countries in whether people can access and afford civil justice. Not surprisingly, Zambian firms cite institutional constraints as being more important than those related to finance to their expansion and growth (Bloom et al., 2014). Just as in many Sub-Saharan African countries, entrepreneurship is an important activity for many households in urban Zambia. Despite gender discrimination and weak rule of law, our data still documents a sizable number of female entrepreneurs.

4.1 The Lusaka Census of Small-Scale Manufacturers

Between May and September 2016, we collected the Lusaka Census of Urban Entrepreneurs (hereafter, "Census"), which is a spatial mapping of all the firms in Lusaka. For each establishment operating from a fixed location, across all industrial sectors, the Census includes geocoded location, industrial classification at the North-American Industry Classification System (NAICS) 4-digit level, number of employees and structural description (e.g., standalone building, inside markets).[23]

The Census data describe the distribution, size and characteristics of economic activities in a fast-urbanizing environment and supplements the Central Statistical Office's 2012 Economic Census of the whole country. Our Lusaka Census includes a total of 48,163 establishments. As there were 16,063 businesses listed in the Lusaka district in the 2012

[23] A business was considered to operate from a fixed location if 1) the business operated from a permanent structure with concrete foundations, 2) the business maintained either stock or machinery on-site overnight, and 3) the permanent structure in question was not exclusively used for storage. We split Lusaka into subregions called Census Supervisory Areas (CSAs), and our census covered all the businesses in 90 percent of all CSAs in the Lusaka district. For security reasons, we excluded 8 CSAs in the region surrounding Chibolya compound (Harry Mwaanga Nkumbula ward). We also excluded areas of low population density in the following wards: Kabulonga, Lubwa, Lilayi, Munkolo, Mwebeshi, Kamulanga, Munali, Roma and Mpulungu.

Economic Census, our data suggests either a 200 percent growth rate over 4 years or differences in methodology or comprehensiveness. Our data includes far more small firms than the 2012 Economic Census. Ninety percent of the firms in our Census have fewer than 5 employees, six percent have between 5 and 10 employees, and fewer than one percent have 50 or more employees.[24] The spatial distribution of businesses in the Census is shown in Figure C.3.

Table C.1 presents the distribution of businesses across industries at the NAICS 2-digit level and the main characteristics associated with the businesses. The largest sectors (by the number of businesses) are retailing, accommodation and food industry, and other services (the vast majority being hairdressers). Retailing firms typically have fewer employees compared to any other industry. The Census also shows that Zambian manufacturing enterprises are smaller– in terms of employment– than those in both neighboring and developed countries (Hsieh and Klenow, 2009; Bloom et al., 2014).

We complemented the Census with a short survey of business owners with less than 20 employees belonging to manufacturing, mining, and construction, which we refer to as the "Census of Small-Scale Manufacturers". This survey had a total of 2,216 respondents, which accounts for 58.3% of the total number of businesses in these sectors.[25] The survey includes questions on business practices, sales and history, levels of trust, collaborative behavior with other businesses, and demographics.[26] We know the gender of the owner for 97% of businesses eligible to participate in the "Census of Small-Scale Manufacturers".[27] We focus on manufacturing because it is traditionally male, offers the possibility of exploiting economies of scale through partnerships, and has been a priority for the Zambian industrial and development strategy for decades. Nevertheless, for external validity, we also include other industries in our artefactual field experiments discussed in Section 6.

4.2 Adjudicating Institutions in Lusaka

There are three main sources of legal support for small-scale firms in Lusaka: the Small Claims Court (SCC), the police and more informal local adjudicators. Few entrepreneurs in our sample heard or made any use of the Small Claims Court. Instead, many of them rely on the police, which is deemed to be quite slow and resource-constrained, or local adjudicators known as "Market Chairmen/Chairwomen" or "Market Chiefs", who exercise authority over transactions that occur within their own local market areas. We describe these institutions in the following paragraphs, and provide a more comprehensive account of the chiefs institution.

Market chiefs. There are approximately 80 formal markets in Lusaka, covering 30 percent of firms across all industries and 59 percent (N=1324) of manufacturers. Cooperation appears easier within markets, and somewhat surprisingly, rents also tend to be lower rela-

[24] In the 2012 Economic Census, the percentages were respectively 71, 11 and 3 percent. In total 84 percent of businesses disclosed their employment figures in our Census, so the percentages in the body of the paper refer to about the 40,517 respondents to this question. Some larger businesses were unwilling to share their employee numbers with our census takers.

[25] Table C.2 shows differences in the characteristics of respondents and non-respondents. Respondents to our Census of Small-Scale Manufacturers are smaller than non-respondents, with about half as many employees. Non-respondents are more often from Construction/Mining, part of a chain, or in brick structures, suggesting they may operate more successful businesses or face higher opportunity costs of time. This selection was also reflected in refusal reasons (40% "too busy," 27% "uncomfortable discussing business").

[26] If the owner was not available, the interview was conducted with the main manager.

[27] Gender is available also for non-respondents as it was coded by our surveyors when asking about the owner's availability to participate in the survey. Table C.2 shows that selection into the survey is very similar for men and women. Importantly, for women we do not find any differences in the type of business location between respondents or non-respondents, including whether they work from a residential building.

tive to spaces in high-traffic commercial areas, potentially due to restricted access, shorter opening hours, and limited business space.

Markets fall under two broad categories: council and cooperative. Historically, Lusaka's markets were governed by the Markets Act of 1937, which gave local authorities control but delegated day-to-day management to appointed Market Masters or, in practice, party-linked "chairmen" who wielded significant influence over stall allocation and fee collection. Following political reforms and later the Markets and Bus Stations Act (2007), councils formally regained control, yet trader-elected leadership persisted in cooperative and most council markets. These leaders, typically called market chairmen, are elected by market members for multi-year terms (usually 2–5 years) to represent traders' interests, enforce market rules (e.g., fines for prohibited behavior, such as drinking or insulting others), manage finances, and maintain order and sanitation. The chairmen's exact functions are guided by legislation and market unit guidelines, but, importantly, all market chairmen are involved in resolving disputes among marketeers and/or customers.[28]

Given their central role in everyday market governance—effectively handling issues ranging from unpaid loans to consumer complaints—these chairmen are widely recognized as local authorities in their own right, despite lacking statutory power in council-run markets after 2007. Traders and customers alike often prefer to bring disputes before them rather than to the police or courts. As one trader explained, "Police say: 'Bring a record from your market committee first'; that's why we sort things here before courts get involved." This de facto institutional authority has earned market chairmen the colloquial title of "market chiefs." The term reflects how entrenched and respected these figures are: they are first-instance adjudicators, peacekeepers, and gatekeepers of access to market stalls, functioning as an informal but well-established governance structure within Lusaka's commercial ecosystem.

For example, one typical dispute involved a marketeer selling a stall to two different buyers. The chief intervened, ensuring that funds from a known lender were redirected to compensate one buyer. In another case, a customer claimed a marketeer had failed to repair a television as promised; the chief set a two-day deadline or imposed a fine. As one chair said, "We want to handle disputes internally and peacefully first, only if this does not work do we go to the police." Such examples underscore the institutionalized trust and authority these leaders command.

Small Claims Court. To address the weaknesses of the formal court system, a Small Claims Court was founded in 2008 by an act of Parliament. No legal representation is required, as the court is intended to hear minor cases relating to employment, borrowing and lending, insurance, and fraud. The court only permits cases involving amounts up to 20,000KW (around 1,962 USD), which represents 150% of average sales in a good month in our sample of businesses.

In our data, only 21% of respondents had heard of the SCC, and of those, 56% did not believe "people like them" had access.

The police. Alongside formal courts, the police is another common institution where small-scale businesses bring their disputes. Since the late 1990s, the Zambia Police Service has being particularly focused on establishing a connection between its forces and the communities they serve. For instance, in 1999, a Community Services Directorate (CSD) was

[28] Arrangements may vary. In Council markets, which are regulated by the Lusaka City Council, there are sometimes two figures in charge: a market "master" and a market chairperson (the chief). The former is a civil servant appointed by the Lusaka city council who usually has a short mandate (around one or two years). The market chairperson (the chief) is instead elected by marketeers and owners of market slots to manage the market and represent them where necessary. Moreover, the market chief is the main person in charge of dispute resolutions.

established with the explicit goal to improve policing within communities and commercial centers. Community Liaison Officers were created to help the vulnerable and disadvantaged people in the community, including women. Figure 3 shows the location of formal markets, the Small Claims Court and the 93 police stations or posts.

A comparison of contract enforcement institutions. Tables C.8 and C.9 compare the three dispute-resolution institutions available to Lusaka entrepreneurs—market chiefs, police, and the Small Claims Court—in terms of knowledge, perceived fairness and speed, and actual usage. Respondents are the entrepreneurs who participated in our artefactual field experiments, described in Sections 6.1 and 6.2.

When presented with hypothetical business disputes, the vast majority of respondents indicated that they would seek help from their market chief: 73 percent of men and 68 percent of women would turn to this local authority (Table C.8, Panel A). By contrast, only 17 percent reported that they would approach the police, and fewer than 10 percent would use the Small Claims Court. The market chief also enjoys the strongest reputation among the three institutions: 55 percent of men and 50 percent of women consider their chief to be always or usually fair, while only 18 percent of men and 24 percent of women perceive the chief as always or usually slow (Table C.8, Panel B). By contrast, the police are seen as less fair than both chiefs and courts, and both the police and the SCC are perceived as slower than chiefs. Men and women are equally pessimistic about the fairness of police on average, but women are more likely than men to think that either the market chief or the police are slow in dispute resolution (see Table C.8).[29] A striking pattern in Table C.8 is respondents' limited knowledge of the formal legal system. Only one in five entrepreneurs has ever heard of the Small Claims Court, and just one in four can name any other institution for dispute resolution besides the chief and the police. Among those who can, only half mention "courts."

These patterns are mirrored in actual behavior. As Table C.9 shows, only 21% percent of male and 13% of female entrepreneurs have ever used a court to resolve a dispute ($p<0.05$ for the gender difference). About half of respondents know someone who has used a court. In practice, however, fewer than one in five business owners seek help from any institution when faced with a dispute. Men are more likely than women to report work-related disputes and are slightly more likely to seek assistance from a third party (in one of our two samples; see Table C.9). Among those who seek help, both men and women overwhelmingly turn to their market chief rather than to formal state institutions. For example, in our two experiments, 30% and 76% of women, and 50% of men, sought assistance from their market chief.

Taken together, this evidence suggests that local institutions—and in particular market chiefs—function as the primary and most trusted adjudicators for Lusaka's small manufacturers. They are well-known, widely used, and perceived as relatively fair and efficient, making them a good empirical proxy for the imperfect third-party enforcers described in our theoretical model. We therefore focus on market chiefs in the main analysis, while presenting complementary results for the other institutions in the Appendix.

5 Gender Gaps in Entrepreneurship and Collaboration

In this section, we use our Census of Small-Scale Manufacturers to describe widespread gender gaps in entrepreneurial activity. While some of these gaps have been documented in other contexts, we show additional facts on gender gaps in trust, business collaboration and peer-to-peer learning. We then show that these gender gaps in economic collaboration are smaller when female entrepreneurs have access to the chief's (unbiased) adjudication.

[29] Anecdotally, taking a long time to arbitrate a dispute is one common way in which Market Chiefs try to favor one party.

5.1 Segregation and Earnings

Women-led businesses represent twenty-six percent of the businesses in manufacturing, construction and mining (N=3,723), which is unsurprising given that manufacturing is often a male-dominated activity (Global Partnership for Financial Inclusion and International Finance Corporation, 2011; Campos et al., 2014). Women's firms have 0.38 fewer full-time employees and 0.7 fewer part-time employees than male-led firms.

Women earn less than men. On average, women's sales value in good weeks is 2,356 Kwacha (KW), as compared to 4,085KW for men, or 180 and 311 dollars in the current exchange rates for women and men respectively (1 KW = 0.076 USD). In bad weeks, women earn on average 599.9KW as compared to 1,313KW for men, or 45 and 100 USD respectively. Figure C.4 shows the kernel densities of log sales in good and bad weeks by gender, where the sales variables have been winsorised at the top 1% to remove the influence of outliers.[30] The distributions are significantly different between men and women (p=0.00, Kolmogorov-Smirnov equality-of-distributions test). Moreover, men have a higher variance in sales in good weeks than women's (p=0.00, variance ratio test), which is driven primarily by a thicker right tail.

Figure 2 shows that Lusaka women make different sectoral choices than men. Ninety-three percent of women operate in apparel and food manufacturing, while women represent a minority in wood, metal manufacturing and printing. Women appear to select into non-complex industries, despite having on average the same qualifications as men.[31]

In our survey of manufacturers, industry choice, not observable human capital, explains much of the gender gap in earnings. Male and female entrepreneurs have similar levels of education, as shown in Table C.3. Women are more likely to have participated in management or entrepreneurship training than men and the two groups do not differ in terms of practices such as record keeping.

Column (2) of Table C.4 shows the raw gender gap in sales variables (average, in a good week and a bad week), both in levels and in logs, and employment level and growth. Column (3) shows that controlling for education does not reduce the gender gap in sales. These results are unchanged when using or including alternative proxies for skills, such as literacy, numeracy, and social skills. Column (4) of Table C.4 adds controls for industry and Column (5) adds household constraints, including marital status and work time. Selection into different industries explains between two-thirds and three-fourths of the gender gap in average sales, in logs and levels respectively. The coefficient on the female dummy for log sales in a good week is reduced from -0.59 to -0.18 when controlling for education and industry, and the R-squared goes from 0.045 to 0.26. The coefficient on log sales in a bad week is similarly reduced by one-half when controlling for education and industry, and the R-squared goes from 0.045 to 0.25. The average level of sales is the lowest in apparel manufacturing– where most women operate– and the highest in food manufacturing. The other sectors lie between these two. Employment growth differences between the two genders are completely explained by the distribution of the two genders across different industries. When controlling for sector, education, working time and marital status, the coefficient on the female dummy becomes insignificant for sales in both levels and logs, as well as for employment variables.[32]

[30] During piloting, we found that recalling exact sales digits or for periods longer than a week was challenging for most of the respondents. We thus asked the sales in the previous working day, the sales in a good week and the sales in a bad week. If the person could not provide an exact number, we also asked for an upper and lower bound. We then imputed the average of the bounds to the sales variables.

[31] We define non-complex industries as industries that have less than the mean number of skilled occupations associated with the corresponding NAICS 3 code, whereby the mean of number of skilled occupations by NAICS code is computed using the Census data (following Minondo and Requena-Silvente, 2013). Our index of complexity is correlated with owner's education in the data.

[32] This evidence is compatible with previous studies also finding that women enjoy less profitability and

One explanation for female industrial segregation may be that, when gender bias is large and institutions are absent or weak, women cannot trust men.

5.2 Trust and Collaboration

Partnerships in Lusaka resemble the world of incomplete contracts described by our theory. Written contracts are used only in one out of five partnerships. Collaborations are mostly triggered by time constraints (e.g., in fulfilling big orders in a short time frame), which limits entrepreneurs' ability to search for or repeat partners. In seventy-five percent of cases, partnerships form between entrepreneurs that are located close to each other. We first examine whether female entrepreneurs are less trusting and form fewer partnerships than their male counterparts. We also discuss our limited information on the transfer of knowledge across Lusakan entrepreneurs.

We use standard survey measures of trust taken from the World Values Survey (WVS) and General Social Survey (GSS).[33] We couple these general trust questions with questions about business behavior that involves trust, including the formation of business partnerships. We conducted extensive piloting to identify the most common cooperative activities that small-scale manufacturers engage in, across all industries. We then adapted the language used by our piloting participants to create questions on collaboration with other businesses in terms of shared orders, joint buying of materials, lending, and offering advice.[34] In our analyses, we use both indicator variables that take on a value of one if an individual ever engaged in the last 12 months in a particular activity and an index of cooperative behavior from their responses created as the average of the four indicator variables.[35]

Panel A of Table 1 shows the mean differences in trust between men and women. Women are less trusting across all three direct survey measures. Women are also more likely to disagree with the statement that they would be comfortable leaving their shop unattended. Additionally, Panel B of Table 1 shows that women are less likely to engage in any of the

lower sales growth even controlling for extensive observable characteristics (Bardasi et al., 2011; Klapper and Parker, 2011; Campos et al., 2014; Nordman and Vaillant, 2014a; Nix et al., 2014; Nordman and Vaillant, 2014b; McKenzie and Woodruff, 2017; Hardy and Kagy, 2018, 2020). Recent evidence by the World Bank similarly finds that one-quarter of the gender gap in profits in the Democratic Republic of Congo can be explained by industry (Campos et al., 2019). For a recent review on the several constraints faced by female entrepreneurs, see Ubfal (2024).

[33] See tables D.1 and D.2 for validity checks of the survey measures of trust and trustworthiness using our experimental data. The GSS Trust measure is an indicator for the answer to "Do you think that most people can be trusted or you cannot be too careful?". Trust in strangers/neighbors is taken from the WVS questions: "How much do you trust people you meet for the first time / your neighbors?", measured on a 4-points Likert scale. We ask for trust in business as agreement to the statement: "I am comfortable leaving my shop unattended during the day if I need to do something for 30 minutes", measured on a 5-points Likert scale. The Trust in strangers, neighbors and in business variables were converted into dummy variables by combining low and high scores.

[34] After each of the following statements, participants were asked whether they had engaged in the described activity with a similar business in the past 12 months:

1. Sometimes two or more businesses participate in a common order from a client, or one business sub-contracts to other businesses part of an order. (share order)
2. Sometimes businesses make joint orders of materials from suppliers. (joint buy)
3. Sometimes businesses ask for advice (or give advice) to other firms doing their same activity, for instance on topics like: the production process, the market conditions, new technologies, business practices, suppliers. (advice)
4. Sometimes businesses borrow (or lend) machines, materials or other assets from firms doing their same activity. Sometimes they hire (subcontract) employees who come from other firms doing their same activity for a short period of time. (lending)

[35] Results are robust to alternative aggregations of these variables, such as a z-score.

four cooperative behaviors that we measure.

We find not only a gender gap in collaboration but also strong gender segregation in collaborative activities. In our second experimental samples, respondents reported the gender, age, and number of their collaborators from the previous year. Both men and women overwhelmingly worked with same-gender partners, with only about 1 in 5 collaborating across genders. These patterns align with the power asymmetries in our model, suggesting that women have smaller networks and may avoid more powerful collaborators.[36]

Table C.5 shows that low levels of trust are associated with a lower frequency of cooperation among entrepreneurs. These results support the view that the trust questions are capturing something real about the trustworthiness of the environment. Finally, Table C.6 shows that cooperative behavior is also correlated with our three measures of sales. While these correlations do not imply any causal relationship, they are compatible with the view that entrepreneurial activity benefits from the ability to form partnerships with others.

In the previous section, we documented the selection of female entrepreneurs into less profitable industries. Our model suggests that this self-selection occurs because women choose industries with other women, because they are able to trust and partner with those women, either as customers or collaborators. Figure 5 shows that women collaborate more and similarly to men in apparel, which is the only gender-balanced industry in our data. In contrast, women in other industries cooperate less than female tailors and substantially less than men.[37] Figure C.5 replicates this evidence by looking at more general social interactions with other entrepreneurs. Women talk less about the business with other entrepreneurs than men, but that tendency disappears in industries that are not male-dominated, so that women who work in disproportionately female industries have the same frequency of cooperative and social interactions as men in those industries.[38]

Perhaps the most important form of cooperation occurs when one urbanite shares knowledge with another. In these informal industries, many skills are often passed along from one worker to another. Yet chains of knowledge also require trust. In many cases, a skilled worker who teaches a newcomer expects that student to serve as an apprentice. For centuries, the relationship between mentor and apprentice has been open to abuse. Apprentices, including Benjamin Franklin, run away to avoid promised service. Mentors typically gain the power to punish their students either physically or by harming their reputations, and that power also creates the potential for misuse, especially between a man and a woman.

Panel C of Table 1 shows that male entrepreneurs are far more likely to have been taught their trade by another entrepreneur or a family member. Female entrepreneurs are usually formally trained. Female entrepreneurs are also less likely to have taught others their trade and slightly less likely to talk with others frequently about their business, but this last difference is not statistically different from zero.

Table 2 shows these results using a linear probability model with controls for business density and owner characteristics. Regression (1) shows that women are 18.4 percent less likely to learn their trade from another owner. Regression (2) shows that they are 13.2 percent less likely to learn from another owner in the same industry. Regression (3) shows that they are 15 percent less likely to learn from family and friends, which seems more plausibly related to gender discrimination within the household than trust. The last three regressions in the table show the relationship between the source of the owner's knowledge,

[36]This sample is described in section 6, and includes tailors, hairdressers and restaurants.

[37]In contrast to women, men tend to cooperate slightly less in apparel manufacturing than they do in other industries. This suggests that female tailors' cooperation level is not driven by a higher industry-specific need for collaboration.

[38]In terms of the correlates of cooperation, we find that businesses which cooperate tend to be older, and their owners are more likely to be married and to have received had capital from their spouse, they are less likely to be recent immigrants and are more educated.

sales and employment. Regression (4) shows that in a good week, women have sales that are 0.6 log points lower than men, but this difference is largely reduced if women have learned from another owner or family member. Regression (5) repeats this regression for sales in a bad week and finds similar results. Regressions (6) and (7) repeat the regression using employment and employment growth as the dependent variables. The pattern for employment is similar but the interaction between owner gender and source of skill is not significant. If human capital externalities rely on trust, then women may be unable to access those externalities and benefit fully from working in a dense urban environment.

5.3 Female Collaboration and Chiefs' Support

In this section, we ask whether institutions can mitigate the gender gap in collaboration and earnings among Lusaka manufacturers. The model predicts that female entrepreneurship is more viable when institutions provide them with reliable contract enforcement (i.e., a higher δ or protective adjudicators with $\alpha > 0$). Yet conditional upon entry, even when gender norms are biased, stronger institutions alone are sufficient to increase cross-gender collaboration.[39]

Empirical model. Our main measure of institutional strength is having access to the justice offered by the chief of a formal market. We first test whether being able to resort to the chiefs' adjudication increases female collaboration. To this goal, we compare the outcomes of female and male entrepreneurs who are located within a market with their counterparts who are located just outside the same market, controlling for marketplace fixed-effects, business density and a variety of entrepreneurs' characteristics. Through the lens of our model, assuming that women are always on average less powerful than men (i.e. $\theta > 0$), a reduction of the gender gap in collaboration in markets indicate that $\delta + \hat{\alpha}\theta$ is on average higher than partners' shirking incentives, and that $\hat{\alpha} > 0$. But if market chiefs are thoroughly biased, then physical proximity to them will not engender cooperation by women. The simplest way of thinking about the mapping between these measures and our model occurs when women have no ability to enforce contracts against men without these institutions, but the likelihood of the chiefs' intervention in support of women increases to some positive number in markets.

Table 3 shows the following regression where cooperative behaviors are regressed on access to the market chief's adjudication and the interaction between this institution and gender. For business i in sector s within 1 km from market m we run the following specification:

$$y_{ism} = \beta_1 Fem_{ism} + \beta_2 InMarket_i + \beta_3 Fem_{ism} * InMarket_i + X'_{ism}\delta + \lambda_m + \epsilon_{ism}$$

The set of controls X_i includes the logarithm of the total number of businesses within 100 metrs of business i, the logarithm of the total number of businesses in the same industry (NAICS3) within 100 meters around business i, a dummy for whether the business is within 100 meters of a market, the population density in the administrative area where the business is located and whether the business has a below-median distance from the police or the SCC ("density controls"). We add marketplace fixed effects λ_m and standard errors are clustered at the marketplace level.[40]

[39] Proposition 1 shows that partnerships between an entrepreneur (E) and a partner (P) occur when the expected institutional intervention rate $\delta + \hat{\alpha}\theta$, exceeds the threshold at which shirking becomes profitable for P. As long as the returns to partnership and the returns and costs of cheating are held constant, the main prediction is that improvements in institutional enforcement (higher δ or a more protective adjudicator, i.e., higher $\hat{\alpha}$ when $\theta > 0$) increase the likelihood of cross-gender collaboration.

[40] A marketplace is defined as the set of businesses located inside a formal market or within one kilometer from the market. Each business located outside a formal market is assigned to the closest market within a kilometer. Businesses located further than one kilometer from a formal market (N=103) are assigned to one extra category ("Far from market").

Variable Fem_{ism} is an indicator for a female-owned business and $InMarket_i$ is an indicator variable equal to one if the business i is located inside a formal market, and thus can refer to the market chief for disputes.

Our empirical strategy compares the effect of having access to the chief's support for businesses of different genders that are exposed to similar demand conditions and density effects, controlling for unobservable characteristics of the marketplaces where businesses are located. We control for both population and business density at a granular level as increased business interactions can be directly affected by supply (other businesses) or demand (customers) factors. We add marketplace fixed effects to control for idiosyncratic differences in the quality of institutions across marketplaces. Our coefficient of interest β_3 captures the systematic effect of the chief's support on female owners' outcomes.

Drivers of business location. Our empirical strategy relies on business location inside markets, and the identifying assumptions are that location is not correlated with chiefs' quality and not differential by gender. To assess the sensibility of these two assumptions, we asked participants in one of our experiments why they chose to locate their business within the current market. Most cited business opportunities, available services, or proximity to home—regardless of gender (see Figure C.6). Only a small share selected "quality of market management," suggesting institutional quality is not a primary driver of location. We also asked why firms chose to be inside the market rather than just nearby. The main reasons were better services (e.g., waste, toilets), security, and lower rent—inside-market stalls are typically cheaper than nearby outside ones. Again, fewer than 10% mentioned management quality. These findings align with our qualitative interviews with entrepreneurs, who noted that outside-market locations offer more customers and longer hours, but at the cost of higher rents and fewer basic services. Inside markets, traders emphasized the value of amenities like toilets, water, security, and waste disposal. In terms of gender-based selection into markets, Table C.7 shows that the observable differences between women who locate inside versus outside markets closely mirror those for men, suggesting similar selection patterns across genders. Consistently, Table C.12 indicates that the average share of women located inside markets is nearly identical to that of men.

Results on collaboration. Panel A of Table 3 shows that being in a market disproportionately increases women's probability of enacting any cooperation activity with other businesses, as well as average cooperation.[41] The dependent variables y_{ism} in columns 2-5 of Panel A of Table 3 are the indicator variables for cooperative behavior: whether the respondent said that they had lent/borrowed capital, given/received advice, participated in a common order from a client, or placed a joint order of materials with another business like their own. The dependent variable in column 1 is their mean.

Being inside a formal market increases women's collaboration by 16 percentage points, which is double the effect of being in a market for men and represents 30% of the mean collaboration levels. This is consistent with the hypothesis that strong market leaders might provide support to women's interactions with other businesses, overcoming their disadvantage in power. Figure 4 shows that the increase in women's cooperation is not driven by markets where women's manufacturers are the majority, but also happens in markets where men's manufacturers are the majoritarian group.[42]

[41] The relationship is substantially unchanged when including business owner controls (our set of individual controls includes: whether the business owners trust their neighbors or people in general, business age, days worked, owner's age, marital status, educational achievement and ethnicity) and industry fixed effects. See table C.11 of the Appendix.

[42] Figure 4 splits the sample in markets with above 40% female share of manufacturers, which is the 75^{th} percentile of the distribution of female shares in the sample.

Results on economic performance. Panel B of Table 3 turns to sales and employment, which are our primary measures of economic success. We use the same empirical specification described at the beginning of this section, but we further control for sector s fixed effects given their explanatory power for gender differences. The outcome variables in Columns (2) and (3) are average sales, in levels and logs, while Columns (4) to (5) focus on full-time employment level and growth. Column (1) shows results on an index of economic performance, which averages standardized measures of sales and employment (in levels).[43] On average women sell less than men, but the interaction term is positive across all the columns, suggesting that female businesses particularly benefit from locating within a market and having access to a market chief. The coefficient on the interaction $Fem_{ism} * InMarket_i$ is statistically significant for mean sales in levels but not in logs. Yet, it is large in magnitude and similar to the coefficient on the female dummy. Similarly, while women tend to have smaller businesses that do not grow, the gender gap in both employment levels and change is attenuated inside markets. The coefficient on the market dummy is negative across specifications, and significant for sales outcomes, indicating that male-owned businesses perform worse inside markets than their counterparts outside the same market.

These results suggest that the economic pie in markets is smaller for everyone, but relatively smaller for men with respect to women, with a resulting attenuation of the gender gaps in economic performance uncovered in previous sections. Given the central role of the chief in dispute resolution, these results may reflect women's increased ability to trust and redistribute the pie in their favor when there is a stronger enforcing institution. The worse economic performance of businesses inside markets also suggests that owners may be negatively selected into markets. However, the mitigated gender gap may still be the result of the chief's support as long as selection is not differential by gender.[44]

Proximity to formal institutions. Given how few small-scale businesses in Lusaka know or use formal institutions, we explore in the Appendix whether simply being located closer to them matters. Figure C.7 shows cooperation rates by gender across distance quintiles from the SCC or a police station. For men, cooperation is fairly stable except in the most remote areas. For women, however, cooperation declines steadily with distance.

Table C.10 confirms this pattern using our main regression model, where we replace the market location dummy with indicators for whether a business is located closer than the median distance to either the Small Claims Court or a police station. Being closer to formal institutions is associated with more cooperation by women, but this relationship is statistically significant only for distance from the SCC (Panel A). However, we do not find evidence that proximity to these institutions affects business sales for either gender (Table C.10, Panel B). One likely explanation is that the Market Chief remains the primary and most trusted source of dispute resolution—unlike the Small Claims Court, which is largely unknown, or the police, which is seen as slow and ineffective.

Summary. While the findings presented in this section are robust to different controls, unobservable characteristics of entrepreneurs located inside markets may still affect our estimates. First, businesses decide where to locate. If there is endogenous selection of more cooperative female businesses closer to local institutions, our estimates would capture this selection rather than the effect of institutional support per sè. Second, if the marginal female

[43] As in previous specifications using sales, the variables have been winsorised asymmetrically at the top 1% to control for outliers and reduce noise. Appendix Figure C.8 shows the robustness of the coefficients on the interaction term $Fem_{ism} * InMarket_i$ for different cleaning procedures and sales variables.

[44] The effect of being in a formal market on mean sales remains the same when including business owner controls (as defined above) in addition of industry fixed effects. See Table C.11.

marketeer is better than the marginal male marketeers inside markets, higher cooperation and sale may be attributed to women's better quality instead of enforcement.

Our next Section addresses these concerns. First, we will show that the market effect on cooperation is heterogeneous depending on the chief's quality of arbitration. Then, we will experimentally isolate the impact of having access to chiefs.

5.4 Chief Bias Mediates Female Collaboration

Our model predicts that women – who suffer from a power gap θ – should disproportionately benefit from competent and redistributive adjudicators, who are characterized by a high parameter δ and are sensitive to the gender power gap through $\alpha > 0$. Yet, weak (low δ) or gender biased (α low or negative) adjudicators may even discourage female collaboration above and beyond the effect of power asymmetries. Thus the average impact of institutions uncovered in the previous section may mask substantial heterogeneity depending on the degree of adjudicator's likelihood of acting in disputes and bias.[45]

Measuring chiefs' gender bias. In 2021, we went back to Lusaka's markets and tried to interview all the market chiefs who were in charge of markets during 2016. We found a total of 76 respondents, of whom 68% are the original 2016 chiefs. Appendix D contains details on the survey collection.

Chief's sensitivity to gender power gaps (α) is linked to gender bias, as chiefs are less likely to want to protect women if they are biased against them (α low or negative). We create an index of the chief's gender bias, which captures whether the chief is unlikely to help a woman in a business dispute against a man and/or has traditional gender values.

The gender bias index aggregates survey answers about the chief's use of subjective decision rules, whether the chief thinks that a woman is unlikely to win a dispute against a man, whether he thinks it's more likely to catch a thief for a male rather than a female marketeer, and whether he reports more traditional gender attitudes according to questions from the World Value Survey (WVS) and the World Justice Project (WJP).[46]

We further construct two indexes which capture the overall quality of the chief's adjudication process (index of legal competence) and the chief's degree of involvement in the market affairs (index of managerial duties). The former can be thought as a determinant of δ (e.g., how easy is to find evidence to be used in the adjudication so that the chief takes action), thus we expect better legal competence to positively affect business collaboration. We measure the chief's managerial burden as a possible confounder in the relationship between the chief's characteristics and female outcomes.

Chiefs' bias and the gender gap in collaboration. Figure 6 shows the main results on the relationship between the chief's gender bias and female trust in business using the raw data. The gender gap in average cooperation between women and men goes from -10 to -7 percentage points moving from outside markets to markets with a highly biased chief. The gap only disappears in markets with an unbiased chief. While access to a chief improves collaboration, chiefs without gender bias are most strongly associated with female

[45] When asked about a hypothetical dispute between a man and a woman, market chiefs varied in their adjudications and views. Some voiced pro-women sentiments (*"Most women are vulnerable and men take advantage of that"*), others bias (*"It is easier to deal with men as most women are quarrelsome"*), while some highlighted that gender would not be a factor in their adjudication ("*We rule in favor of one who provides enough evidence*")

[46] The exact components of the index are listed in Table D.2. Questions on the way in which the chief arbitrates disputes were asked referring to two hypothetical scenarios involving a female and a male marketeers, reported in Appendix D.

collaboration, consistent with our theoretical predictions.

We next restrict our attention to businesses located inside markets and compare the collaboration behavior of women and men, allowing for differences in the degree of chief's gender bias across markets. Figure 7 shows the coefficients from the following specification:

$$coop_{ism} = \beta_1 Fem_{ism} + \beta_2 HighIndex_{im} + \beta_3 Fem_{ism} * HighIndex_{im} + X'_{ism}\delta + \epsilon_{ism}$$

where $coop_{ism}$ is average cooperation for business i in sector s located inside market m, Fem_{ism} is equal to 1 for being a female owner and $HighIndex_{im}$ is a dummy variable for having a chief who scores above median in one of the indexes constructed from the chiefs' survey (gender bias, legal competence and managerial duties). The set of controls X_{ism} is defined in section 5.3.

Figure 7a shows three facts. First, as previously discussed, women inside markets with unbiased chiefs cooperate as much as men (top panel). Second, men cooperate more in markets with a high degree of chief's bias against women. This suggests that men are able to take advantage of biased institutions in their business dealings. Third, consistently with our model, women's cooperation is significantly lower in markets with a chief characterized by high gender bias (β_3 negative and significant). Importantly, the chief's level of gender bias is not significantly correlated with the share of female manufacturers within a market (correlation coefficient = -0.05, $p = 0.66$). Moreover, the observable characteristics of men and women under more or less biased chiefs are similar. This reassures that we are not simply capturing a selection effect of more or different types of women electing women-friendly market chiefs.

Figure 7b shows that female cooperation is also related to the degree of legal competence of the chief. High legal competence benefits both men and women, as both coefficients β_2 and β_3 tend to be positive, but their magnitude and significance highly depend on the controls used. A robust result is that women in markets with a legally competent chief cooperate significantly more than women in markets with an adjudicator of low quality ($p \leq 0.10$ across specifications). This is in line with better institutions – even in a gender-neutral way (i.e. higher δ) – have the potential to benefit women in business.[47]

Appendix Figure D.1 shows similar patterns for the sample of women only, by comparing their average cooperation levels when located inside versus outside markets with varying levels of chief's gender bias, legal competence and managerial duties. Figure D.1a shows that there is no significant difference in the cooperative behavior of women located outside markets which differ in the degree of chief's bias, a fact which reassures that the constructed index is not only a proxy for broader gender attitudes in the area where the chief operates.

Since chiefs are not randomly assigned to markets, we cannot exclude that they become less biased in areas where women and men cooperate more together. To overcome remaining endogeneity concerns, we turn to our artefactual field experiments.

6 Experimental Variation in Institutional Access and Quality

Institutional support can reduce the risks of economic collaboration—especially for women—as shown by the positive link between having access to a higher-quality market chief and female cooperation. But this effect varies, suggesting that institutions do not function uniformly. Chiefs are embedded in local social structures and may differ in how they exercise authority—some may reinforce prevailing gender hierarchies, others may act as egalitarians or as protectors of vulnerable groups like women.

[47] Figure 7c also shows that a busy chief seems to favor male rather than female cooperation. This effect is not coming from a positive relationship between managerial duties and gender bias, as the correlation coefficient is -0.15 between the two indexes ($p < 0.10$).

In this section, we experimentally isolate the causal impact of institutional access on women's trust in business interactions. Specifically, we ask whether such access disproportionately benefits women depending on how adjudicators use their authority. In Experiment 1, we examine the effect of access to a gender-blind chief on trust and cooperation, benchmarking it against two alternatives: the absence of any enforcement mechanism and access to a formal legal institution. In Experiment 2, we allow chiefs to observe the participants' gender, reintroducing the possibility of personalized enforcement. In light of the potentially powerful effects of blinding institutions to gender, the second experiment allows us to understand whether, when institutions do see gender, this visibility helps overcome or simply reinforces existing power asymmetries.

Together, the experiments explore two institutional paths to inclusion: one through formal neutrality, and one through contextualized protection. We use both behavioral outcomes and original measures of adjudicator attitudes and participant expectations to understand which institutional features most effectively support inter-gender economic collaboration.

Common design features. We conduct two artefactual field experiments (List and Metcalfe, 2014; List and Rasul, 2011), with a similar design. First, both experiments adapt the investment game introduced by Berg et al. (1995) and – in line with our model – frame it as two entrepreneurs having the opportunity to partner for business. Second, they involve Lusaka entrepreneurs operating inside or around formal markets in Lusaka. To limit participant burden, minimize attrition, and preserve anonymity, the games were conducted inside participants' shops, with surveyors relaying choices electronically to each other in real time. Third, we embedded real local institutions into the experimental setting—namely, Market Chiefs and Small Claims Court judges. While we build on a rich literature that uses trust games to study institutional and interpersonal dynamics (e.g., Bohnet et al., 2008; Fehr and Rockenbach, 2003; Ederer and Schneider, 2019; Bartoš and Levely, 2021), to our knowledge, this is the first study to involve real adjudicators from the local institutional environment.

6.1 Experiment 1: Testing Gender-Blind Adjudication

Our first experiment tests an extreme case of our model: an unbiased institution with no information on entrepreneurs' power and/or gender ($\theta = 0$).

6.1.1 Design

Game rules and structure. The experiment consists of a modified version of the trust game (Berg et al., 1995), framed as an opportunity to invest in another person's business opportunity. Player A (the Investor) was given 10 tokens that could either be kept or invested in the business of Player B (the Trustee). The Trustee received three times the number of invested tokens and must decide how many to return to the Investor. The Trustee used the strategy method: before receiving the Investor's tokens, he or she completed a matrix indicating how many tokens they would like to return for a given amount sent. The decision in their matrix was followed even if they wanted to change it after the Investor's offer.

Participants played the game for two rounds in total, but they switched roles between the first and the second round. Players who started playing as an Investor (Trustee) would play as a Trustee (Investor) in the second round.

Experimental conditions. We cross-randomized two experimental conditions. See Table C.13 for sample sizes by experimental condition, and Table C.14 for balance checks.

Randomized access to gender-blind adjudicators. The first condition tests the effect of gender-blind institutions on trust. We randomly assigned pairs of players to three groups: a control group that receives no access to institutions, a first treatment group that has access to the Small Claims Court, and a second treatment group that has access to the market chief. If the Investor is dissatisfied with the number of tokens received, then the Investor may ask the experimenters to go on their behalf to the court or chief to adjudicate. The trustee is told that the Investor can consult the chief or clerk, and that their ruling will determine the distribution of tokens if the Investor complains.

This condition brings real institutions into a controlled setting, with the complaint process designed to closely reflect how disputes are handled in actual markets. However, the treatment introduces an important difference with respect to reality: adjudicators receive only information about the players' choices—not their gender or their identity. By ensuring anonymity, we remove the possibility that decisions are influenced by gender, allowing us to test whether institutional access, in the absence of gender-based power differences, disproportionately benefits women.[48]

The implementation of the complaint required us to ensure that participants trusted that the experimenters would call the institution to complain, and that the Chief and the Small Claims Court Senior Clerk would understand the game and act as if it were a real-life dispute. We provide details on our solutions to these challenges in Appendix B.

Randomized match with market outsiders. Our second experimental condition allows us to explore whether in-group vs out-group dynamics increase cooperation within markets independently of contract enforcement (Kranton et al., 2020). Pairs of players were randomly assigned to two groups. For the first treatment group, both players were drawn from within the same market. For the second treatment group, one participant was drawn from the market, while the other from outside the market. For all groups, the players are told whether they are playing with a person from the same market or an outsider. The two experimental conditions were cross-randomized, yielding five distinct experimental groups. Because the chief cannot adjudicate disputes involving businesses outside the market, we only assign pairs of insiders to the chief condition. We present results on this condition in the Appendix.

Payment. After the game was complete, players could exchange tokens for real money. The sessions were on average 90 minutes long. Investors earned on average 11.4KW (1 dollar at the time) and Trustees earned 6.6KW (0.60 dollars) per round. These amount to 3.6 percent and 2.1 percent of average daily earnings.[49] In addition, all players received a participation fee of 35KW (3.5 dollars) as a token of appreciation for their time.

Sampling and randomization. Using data from the Lusaka Census of Urban Entrepreneurs, we randomly selected participants for the experiment, stratifying by whether the business is located within a market. The sample selection procedure was designed to oversample manufacturers and women in a selection of Lusaka's 80 dense urban marketplaces. We chose sixteen markets that contained the largest numbers of (female) manufacturers. For each market, we used the Census data to assemble a list of entrepreneurs located inside the market and a list of entrepreneurs outside the market, but within 500 meters of its borders. We oversampled the manufacturing sector by placing all of the manufacturers at the top of the list in random order and all other businesses at the bottom of the list in random order. If

[48] By submitting complaints on participants' behalf, we also simplify access and eliminate any image concerns associated with filing a complaint.

[49] In 7 percent of chief-treated games and 9 percent of court-treated games, the Investor asked for arbitration. Average earnings for all games before arbitration were 11.3 tokens for the Investor and 6.7 for the Trustee.

a marketeer could not be located or refused to participate, we replaced the marketeer with the next female on the list. As soon as all women had been exhausted, the recruiters simply moved to the next marketeer on the list. The survey team visited businesses on the lists in this way until they had valid responses for 24 businesses inside each market and 6 businesses outside each market. We recruited a total of 480 participants across the 16 marketplaces.[50] We randomly paired players together and assigned them to a certain experimental condition based on a pre-determined order.

Benchmarking the effect of the chief. We implemented a Pre-Games Survey with questions about access and opinions about different institutions, dispute resolution and exposure to crime.[51] Our Pre-Games Survey helped us uncover that awareness of the Small Claims Court's existence was very limited. Eighty percent of our sample had not heard of the Small Claims Court before. Among those who had heard of it, half thought that "business owners like them had no access to the Small Claims Court". Five women out of 25 (and seven men out of 76) mention that the Court has high costs and "terribly" long procedures. This limited and faulty knowledge, which we discovered only after setting the experiment in motion, led us to conclude that the Small Claims Court was not understood as an institution and we therefore present our results on the Small Claims Court only in Appendix C. We therefore interpret the SCC treatment only as a useful benchmark: a formal institution offering legal protection on paper, but lacking credibility or salience among entrepreneurs.

6.1.2 Results

Women's trust increases with gender-blind chief. Table 4 shows our primary results. Panel A, Columns (1) and (2) use the amount sent in the trust game as our experimental measure of trust. In this regression, we find that women without access to the Market Chief trust much less than men. This trust gap is consistent with all of the previous results in this paper showing that female entrepreneurs collaborate less than men.

The gender difference in trust is eliminated when we introduce the possibility of complaining to a gender-blind market chief. As Figure 8 shows, there is a sizable gap in trust between men and women without the Market Chief. With the market chief, this gap disappears, as women send significantly more tokens than in control. This result suggests that the experimentally generated differences in access to contract enforcement encourage cooperation disproportionately for women in a developing world setting.

Figure 10 shows that the increased women's investment in the chief condition occurs mainly in markets where the chief has above-median gender bias.[52] Thus women used to unfair or slow chiefs benefit the most from the improvement in local institutions offered in the game. Women located in markets where the chief has a good reputation also slightly increase the tokens sent as Investors, probably as access is also easier compared to reality.

Access to gender-blind chiefs discourages bad male behavior. Columns (3) and (4) examine trustworthiness using the average return ratio, as in Glaeser et al. (2000). We

[50] Manufacturers are 78% of the final sample and we could include between 1 and 17 women in each market. We excluded 3 responses in the analysis because of limited understanding of the respondent. Because of the limited female representation, we do not have power to look at market-by-market treatment effects by gender. We overcome this limitation in experiment 2.

[51] Answers to these questions are presented in Table C.8 and discussed in previous sections. The pre-game survey might have primed participants to think about their past experiences with institutions before the play. This should not be an issue for the interpretation of the results as long as this effect is the same across experimental conditions.

[52] A similar pattern appears when splitting by marketeers' opinion of the chief (fairness and speed): the increase comes from markets with below-median reputation.

divide the number of tokens the Trustee would return by the number of tokens available (return ratio) for each possible amount of tokens received, and then average over all return ratios. In the control group women return less than men, even if this result is no longer statistically significant when controlling for individual characteristics. In the chief condition, neither men nor women's trustworthiness change on average.

While there is no significant average impact on trustworthiness, Figure 9 shows that access to the chief's ruling discourages extremely low return ratios and reduces the variance in the return to trust, in particular among men. Effectively, the Market Chief is able to coordinate trustees' behavior around the norm considered fair by the marketeers and reduces the risk involved in trusting others. Lower risk together with the chief's protection, in turn, disproportionately helps women trust others. Women also seem aware of the value of the chief's support. As an exploratory question, we asked players at the end of the experiment how much they would be willing to pay for institutional access should the activity be repeated. Women's distribution of answers is shifted to the right of men's (although not statistically different from each other).

Higher female trust increases the economic pie in the game. Panel B of Table 4 shows the final earnings. Female and male Investors in the control group tend to receive the same number of tokens at the end of the game. The chief raises the Investors' total earnings, with the effect being statistically the same for entrepreneurs of both genders. The last columns of Table 4 show that the chief has little impact on the earnings of the Trustees.[53]

As a result of higher female trust, investors' earnings increase, and the economic pie becomes bigger. Focusing into rounds of the game with male or female investors, Figure 11 indeed shows that women's increased trust in the chief condition leads to an increase in the economic surplus produced in the experiment (of around 19%), with a greater share for both the Investor and the Trustee.

A gender-blind court does not affect trust. Appendix Table C.16 shows that neither female nor male investors randomized into having access to the gender-blind adjudication of the court significantly change their behavior in sending tokens. This is consistent with the limited awareness of the SCC revealed in our surveys: without knowledge of the court's existence or procedures, access to its adjudication does not reduce perceived uncertainty around the investment. Interestingly, however, trustworthiness does increase in the Court condition—Trustees return more on average—even though Investors do not appear to anticipate this change.[54] This suggests that entrepreneurs do not internalize the potential deterrence effect of the court on others' behavior. Overall, this indicates that legal reforms may be difficult to implement effectively in informal, low-income and low-education settings: simply mentioning the possibility of formal punishment is unlikely to influence behavior unless institutions are well-known, trusted, and understood by the community.

6.1.3 Summary

Our results show that introducing a gender-blind Market Chief closes the trust gap between men and women—especially benefiting women in markets with biased chiefs. A gender-blind court does not increase female trust, indicating that women's greater responsiveness is not simply due to preferences for third-party enforcement in general. Instead, women appear particularly sensitive to the Market Chief's impartial role embedded in their local context, highlighting that the identity and perceived legitimacy of the adjudicator matter.

[53] See Appendix C for results splitting the sample by all the different institutional treatments.

[54] Investors neither change their behavior nor revise their expectations of trustworthiness in the court condition.

Nevertheless, the observed trust increase among women may reflect several overlapping factors: confidence in the blindness and fairness of adjudication within the game; reliance on trusted local actors due to weaker means of social punishment or prior exposure to bias; and potentially greater sensitivity to risk reduction, as the chief lowers the uncertainty of trust-based interactions.

These findings raise an important question: is it the impartiality of the chief that matters most to women, or the broader institutional role the chief plays in local power structures? To answer this, we turn to a second experiment that compares the effects of gender-blind versus gender-aware chiefs on women's trust.

6.2 Experiment 2: Gender-Aware vs Gender-Blind Chiefs

The first experiment demonstrated that access to a gender-blind adjudicator—particularly one embedded in familiar, informal structures—can increase trust and close the gender gap in risky collaboration. However, real-world institutions rarely operate in the blind. Market chiefs often know the individuals they serve and may factor social identities, including gender, into their decisions. This raises a critical question: when institutions do see gender, does this visibility reduce or reinforce power asymmetries?

In this second experiment, we explore how women's trust responds when gender is visible to the adjudicator, and whether that visibility helps or harms them. Specifically, we test whether institutions that recognize group identity—in this case, gender—can improve trust for vulnerable populations, and under what conditions this recognition is perceived as protective versus biased.

This experimental variation allows us to test the full theoretical model, particularly the predictions of Proposition 2 regarding women's preferences for adjudicators who may or may not be aware of their own power (θ_g), may or may not be biased against a particular gender (α_g), and women's expectations of this bias ($\hat{\alpha}_g$).

6.2.1 Design

Game rules and structure. The rules of the game mirror that of Experiment 1: the Investor decides how many of 10 tokens to send to the Trustee, with the amount tripled upon transfer. The Trustee pre-commits to how much to return for each possible amount sent. As in the chief condition of Experiment 1, all Investors in Experiment 2 have the option to file a complaint if they feel the return is unfair. Again, if they complain, their real market chief will adjudicate the dispute and may reallocate the final payoff.

Unlike in Experiment 1, where participants may play in both roles across rounds, here each participant plays only once and in a single role (Investor or Trustee) to avoid potential order effects.

Experimental treatments. In this experiment, all the investors have access to the chief's adjudication. The key experimental variation lies in what information the adjudicator receives about the Investor. Participants were randomly assigned to one of two treatments (see Table C for balance checks):

- *Chief: Gender-Blind.* Complaint forms submitted to the chief reveal only the choices made by the investor and the trustee, without any identifying information.
- *Chief: Gender-Aware.* Complaint forms submitted to the chief reveal the choices made by the investor and the trustee, as well as the investor's gender.

Unlike in Experiment 1, where players only knew about the treatment they were assigned to, here all Investors are informed that two distinct types of complaint processes exist—one where gender is revealed and one where it is not. This choice ensures that gender is equally salient across both treatment arms, addressing a key concern in the experimental design: avoiding a confound where gender salience alone could drive behavior in the Gender-Aware condition.

Trustees were informed that complaints could be submitted but did not know that multiple versions of the form existed. Thus, the institutional context was held constant, and what varied was only whether the chief saw the sender's gender.[55]

This design reintroducing the power asymmetries that were shut down in Experiment 1. The key question becomes: do women trust more—or less—when their gender is visible to their market chiefs?

Sampling and randomization We selected 12 markets from among Lusaka's dense urban marketplaces, five of which were also in Experiment 1. The market sampling procedure had two aims. First, to achieve variation in market size, market type (council or cooperative), and attitudes of the chief, based on our chief survey. Second, to ensure that the sampled markets had a sufficient number of businesses in the industries we planned to recruit.

To increase the external validity of our findings, the second trial broadens the set of industries and stratifies both participant sampling and treatment assignment by gender and industry group (manufacturing vs. non-manufacturing). Within non-manufacturing, we focus on restaurants and hairdressers—two sectors that represent a large share of market vendors and, based on piloting, frequently engage in collaborative activities that exploit returns to scale.

Because our primary outcome is trust,[56] we stratify sampling by gender and industry group only for Player As (Investors). Player Bs (Trustees) are drawn from any industry ineligible to be a Player A, predominantly retail shops. In particular, within each market, we recruited an equal number of men and women, with overall targets determined by market size from a business listing. For Player As, the split between manufacturers and non-manufacturers was set based on availability, aiming for equal representation of manufacturers across genders. For Player Bs, we recruited an equal number of men and women without distinguishing industries.[57]

Treatment assignment was randomized within markets and Investor gender–industry cells. Trustees were not treated (i.e., they were unaware of the experimental treatments) but were paired to Investors within strata defined by the Investor's gender–industry and the Trustee's gender. Real-time assignment protocols, based on pre-randomized slots and randomized business lists, ensured that treatment was orthogonal to participant characteristics.

Further details about sampling and field protocols are included in Appendix B.2.

6.2.2 Results

Women's trust increases with gender-aware chiefs. Panel A of Table 5, Columns (1) and (2), show treatment effects on trust. On average, we find that women send more in the chief gender-aware condition. In contrast, men send slightly less tokens when the chief knows their gender compare to a blind chief, but the effect is small and not statistically significant.

[55]The script read to each player can be found in Appendix B.2.

[56]Our pre-registration (AEA RCT number AEARCTR-0014859) lists trust as the primary outcome, and trustworthiness and earnings as secondary outcomes.

[57]The number of participating businesses ranges from 28 to 72 per market. Overall, 48% of Player As are manufacturers.

This suggests that, in our games, women prefer being visible to being anonymous, and implies that on average women perceive the chief to be supportive towards weaker parties (i.e. $\hat{\alpha} > 0$).

In the second experiment, a gender gap in trust emerges even when participants are assigned to a gender-blind chief. Women send about 15% fewer tokens than men on average—a smaller gap than in the previous experiment (25%)—and the difference becomes statistically insignificant once we control for individual characteristics. This stands in contrast to the first experiment, where women trust as much as men under a blind chief. One likely reason for this discrepancy is that, in the second experiment, participants are aware of both the gender-aware and gender-blind conditions, making gender more salient. If women expect that only a gender-aware chief would actively protect their interests, they may interpret the blind condition as less favorable, leading to lower trust. In the first experiment, the neutral chief is presented without comparison, and participants may simply assume fairness.

Effects on trust vary across markets and are negatively correlated between genders. The average effect of assigning a gender-aware chief masks important variation across markets. Figure 12 ranks markets by the difference in tokens sent by women under the gender-aware versus the gender-blind chief condition. In three markets, women send slightly more tokens under the blind condition, though these differences are not statistically significant. In the remaining eight out of twelve markets, women send more tokens when the chief is gender-aware, with large and significant effects in three of them. The figure also reports the corresponding effects for men. Three main patterns emerge. First, male responses tend to move in the opposite direction from women's: in seven markets, men send more tokens under the gender-blind condition. Second, the magnitude of the treatment effect for men is smaller than for women, suggesting that men are less sensitive to variation in adjudication. This is consistent with the idea that men, due to greater social power, may be less dependent on third-party enforcement or less attentive to institutional differences. Third, markets where women's trust increases the most under a gender-aware chief (vis-a-vis a gender-blind one) are also those where men's trust declines the most, producing a positive difference-in-differences across markets. In other words, women exhibit a "revelation trust premium" relative to men, and this premium is larger in markets where men's trust is higher under the gender-blind condition.

This heterogeneity aligns with several other experimental outcomes, as shown in Table C.20. In markets with a larger revelation trust premium between women and men, women are also more likely to state a preference for adjudication forms that reveal their gender. Expectations and behaviors surrounding the chief's role further support this pattern. In markets with a larger revelation trust premium, chiefs are more likely to take action when the complainant is a woman rather than a man. This is mirrored in marketeers' incentivized beliefs: when presented with hypothetical disputes, respondents expect chiefs to redistribute more tokens in favor of women in markets with higher trust differentials. Taken together, these results suggest that the heterogeneity across markets reflects meaningful variation in how chiefs are perceived and how they actually behave in gendered disputes. It also supports the interpretation that women's greater trust in gender-aware adjudication stems from context-specific expectations of protection and fairness.

The variation in treatment effects across markets captures more than just participants' behavior in the experiment—it also reflects key features of the markets themselves (Table C.21 and Figure 13). In markets with a revelation trust premium for women, real-world female collaboration is significantly higher ($p < 0.05$). These are also the markets where women report more frequent disputes and are more likely to cite security concerns as a reason for choosing their business location. This pattern suggests that women respond more

strongly to protective adjudication in environments where they feel more exposed or vulnerable, and where institutional support is especially valued.

Market heterogeneity is explained by female power and chiefs gender bias. The experimental variation generated in the type of chief's adjudication allows us further test the predictions of our theoretical model. In particular, ceteris paribus, we expect women's preference for gender-aware adjudicators to be weaker when female power in the market is higher (a lower θ), when the chief is biased against women (a lower or negative α), and/or when women expect the chief to be biased (a lower or negative $\hat{\alpha} < 0$).

To proxy female power, we rely on two distinct measures. First, we use self-reported data on social support in the event of a dispute, collected through our survey.[58] This measure maps closely to our theoretical definition of power as the capacity to impose social punishment. Our second measure captures variation in gender norms across ethnic groups. Drawing on the methodology of Ashraf et al. (2020), we link the ethnicity of business owners in our sample to the Ethnographic Atlas, which provides indicators of matrilineality, matrilocality, and women's participation in agriculture. We combine these three variables into a single index of "historical female empowerment," which reflects long-standing cultural norms around female authority and autonomy. This allows us to test whether, as Gneezy et al. (2009) find, female power as proxied by tribal matrilineality or patrilineality, would enable women to respond to opportunities as men do.

Figure 14 shows the relationship between our measures of female power and the revelation trust premium at the market level. Consistent with the model's predictions, markets with higher female power—whether measured through social support or historical empowerment—exhibit a smaller trust gain for women under the gender-aware chief condition, relative to the blind condition. In this way, women become less sensitive to, and needing of, the protection of the chief.

The second key implication of our model concerns institutional gender bias. Figure 14 shows that women's revelation trust premium is smaller in markets where the chief exhibits greater bias against women, based on our chief bias index (defined in Section 5.4). In contrast, women trust more when the chief is both attentive to gender and predictable. Specifically, women send relatively more tokens under the gender-aware treatment when the chief scores higher on an implicit gender salience task and when women can more accurately predict the chief's behavior in hypothetical dispute scenarios. These findings align with the idea that institutional support matters most when it is both impartial and perceived as reliable.

Trustworthiness and earnings results. Trustees in this experiment were blind to the existence of any treatment, and to the best of our knowledge, this protocol was consistently followed in the field. Among female trustees, we find no significant differences in the average return ratio across treatment arms. However, Figure C.9 shows that male trustees assigned to the gender-aware chief condition commit to returning significantly more tokens than their counterparts in the blind condition, as well as more than women in any condition. While this effect is statistically precise, it is modest in size—around 10% of the mean return ratio—and concentrated in just two small markets, comprising a total of 15 male trustees (see Figure C.9c).[59] Figure C.9c orders markets by the difference in tokens sent by women in the gender-aware versus blind chief treatments. Notably, the observed differences in male trustworthiness do not arise in the same markets where we observe larger differences in women's trust. This

[58] Due to implementation issues, this question was asked only to manufacturing businesses. For missing observations in other sectors, we impute the market-gender-level mean.

[59] While we aimed to recruit a balanced number of male and female trustees within each market, logistical constraints prevented full gender balance across treatments.

suggests that the patterns in trustee behavior are not driven by the same structural market characteristics that appear to explain investor responses, and which are the main focus of the analysis.[60]

We find no significant effects of either treatment on investor's or trustees' earnings. Nevertheless, we replicate the result of our previous experiment on total earnings: when female investors trust more, the game economic pie is larger (see Figure 15). Panel B of Table 5 show results on trustworthiness and earnings.

6.3 Discussion

The results of our experiments reveal that local informal institutions can play a vital role in fostering economic collaboration—particularly when they act as protectors of the weak. Women, who face greater risks in mixed-gender business interactions, are not simply seeking neutrality—they are, in some cases, seeking allies. Chiefs, though embedded in local norms, can function as benevolent adjudicators, and women respond strategically to this possibility. In contrast to the conventional wisdom that anonymity protects the vulnerable, our findings show that being visible to a fair institution can itself be empowering.

Together, the two experiments illustrate a broader point: when formal legal systems are weak or inaccessible, local institutions can fill the gap. In their gender-blind form, they can mitigate power asymmetries and facilitate trust. But when designed—or perceived—to protect the vulnerable, identity-aware institutions can go even further, enabling high-risk, high-return collaboration for those most in need of institutional support.

Beyond contract enforcement institutions, what else could women resort to for protection from expropriation? In our qualitative work, we repeatedly asked female entrepreneurs why they don't bring their husbands, brothers or any other trusted male family member to help in disputes and negotiations. Their replies consistently pointed to one issue: if women get help, they have to give away decision rights over the business to their men. Thus the insecurity of property rights, beyond incomplete contracts, limits alternative solutions. A similar situation has been shown for female farmers, whose plots are less productive – not because they are on worse soil or because women are less skilled, but because there is less investment in inputs on those lands (Udry, 1996). Maximizing production by rearranging inputs would benefit the whole household, but insecure property rights for women mean the wife would lose some of her decision, and potentially property, rights to the land if her husband started investing in her plots. As in our case of collaborative market exchange, production is sub-optimal because of insecure contracting rights, with insecurity being highly gendered.

Our findings raise broader questions about which types of economic cooperation are most constrained by weak enforcement and trust—particularly for women. One such area is input sourcing and trade. Startz (2016) documents that Nigerian entrepreneurs often travel long distances to source goods in the face of search and contract frictions. Future work might investigate whether female entrepreneurs avoid sourcing arrangements that require travel or high-stakes intermediation due to contracting risk, and whether this limits their access to more profitable supply chains. More broadly, insights from the trade literature on which sectors are most vulnerable to enforcement frictions may help explain patterns of female under-representation across industries.

We also speak to recent work documenting gender segregation in buyer-seller matches (Hardy and Kagy, 2018, 2020) and employees hiring (Chiplunkar and Goldberg, 2024), with women predominantly selling to or hiring other women. These patterns may reflect mutual concerns about trust and enforceability in cross-gender transactions—on both the supply and

[60] Reassuringly, the distribution of the average return ratio in this second experiment is indistinguishable from the distribution from the previous experiment, for both genders.

demand side. Viewed through this lens, our findings contribute to a deeper understanding of how institutional frictions shape not only firm outcomes, but also the gender structure of entire markets, including spillovers into wage labor markets.

Our results extend beyond entrepreneurial partnerships into any area of economic collaboration where contracts are incomplete and property or decision rights are limited. One of these realms is scientific collaboration and co-authorships. What is the equivalent of the adjudicators in our model in scientific production? While previous theoretical frameworks emphasize the rule of law, and indeed ours began with considering different types of contract enforcement including legal courts, our experimental results suggest that informal intermediaries can play a large role in increasing protection of minorities' investment. This makes even more sense in a world with pervasive contract incompleteness, as informal intermediaries may be more flexible in their support compared to the legal system. The equivalent in academia are roles such as department chairs or seminar moderators, which can potentially have a large role to play in protecting the inclusion of women and minorities and their investment in scientific production. In the context of seminars, Dupas et al. (2021) and Schmidt et al. (2017) mention session chairs as a potentially important "institution" for guiding seminar interactions and maintaining a professional environment against the hostile treatment of female presenters. Lissoni et al. (2020) document that women are more likely to be excluded from patents' inventorship in mixed-gender and mixed-seniority teams, but different institutional settings can mitigate (or exacerbate) the gap.

Finally, our experiment does not have variation in the type of output generated by pairs of players, which would depend on their skills, effort and coordination ability. However, it's natural to think that the economic losses of missed collaboration opportunities will be larger in activities that hinge on partnerships between people with diverse skills, such as entrepreneurial innovation and scientific knowledge.

7 Conclusion

Economic opportunities arise through the density of potential collaborators and ideas. Yet the ability to interact positively is limited if one partner consistently fears expropriation by the other. If men are more prone to use aggression than women, then this will reduce women's bargaining power without fair institutional support, and may cause inter-gender partnerships to break down or fail to form. In Lusaka, we believe that the industrial segregation of female entrepreneurs partially reflects the safety of being able to trade within genders.

A central theme of this paper, and an implication of our cross-sectional and experimental work, is that even gender-neutral applications of contract enforcement can have benefits that accrue disproportionately to women. When rule of law is absent, the threat of aggressive action looms over even seemingly innocuous market transactions.

A second theme is that female entrepreneurship can be blocked by the combination of weak institutions and social norms that favor men and male bargaining power. Women can either lose in ex ante bargaining or ex post expropriation. Only protection from both types of losses will enable women to flourish in entrepreneurial fields where interacting with men can yield profits.

While our paper focuses on women's expropriation risks in entrepreneurship, the interplay between contract enforcement and norms is central also in other settings, such as formal employment. An implication of our model is that the strength of contract enforcement should matter only in entrepreneurship, while discrimination should affect women's outcomes in both wage work and self-employment. This predicts that improvements in contract enforcement may not necessarily affect women's labor force participation over the course of development (Olivetti and Petrongolo, 2016), but may change the relative expected utility of

self-employment with respect to wage work, affecting the occupational structure by gender (Ashraf et al., 2022). Future research may shed further light on this topic.

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Tables

Table 1: Trust and Cooperation Among Small-Scale Businesses in Lusaka, by Gender

	Census Data			Experiment 1			Experiment 2		
	Male N=1578	Fem N=637	Diff	Male N=347	Fem N=128	Diff	Male N=290	Fem N=304	Diff
Panel A: Trust									
Trust Strangers	0.29	0.20	-0.09***	0.18	0.07	-0.11***			
	(0.45)	(0.40)	(0.02)	(0.02)	(0.02)	(0.04)			
Trust Neighbours	0.54	0.43	-0.11***	0.69	0.62	-0.07			
	(0.50)	(0.50)	(0.02)	(0.02)	(0.04)	(0.05)			
Trust GSS	0.10	0.04	-0.06***	0.17	0.10	-0.07*	0.07	0.05	-0.02
	(0.31)	(0.19)	(0.01)	(0.02)	(0.03)	(0.04)	(0.02)	(0.01)	(0.02)
Feel safe leaving shop unattended				0.44	0.32	-0.12**	0.26	0.15	-0.10***
				(0.03)	(0.04)	(0.05)	(0.03)	(0.02)	(0.03)
Panel B: Cooperation									
Joint Buy	0.35	0.27	-0.08***	0.28	0.26	-0.02	0.24	0.22	-0.02
	(0.48)	(0.44)	(0.02)	(0.02)	(0.04)	(0.05)	(0.03)	(0.02)	(0.03)
Lent	0.55	0.44	-0.11***	0.69	0.62	-0.06	0.35	0.37	0.02
	(0.50)	(0.50)	(0.02)	(0.02)	(0.04)	(0.05)	(0.03)	(0.03)	(0.04)
Advice	0.76	0.71	-0.05**	0.91	0.88	-0.03	0.23	0.22	-0.01
	(0.43)	(0.45)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)
Share Order	0.58	0.54	-0.04*	0.62	0.54	-0.08	0.39	0.32	-0.06
	(0.49)	(0.50)	(0.02)	(0.03)	(0.04)	(0.05)	(0.03)	(0.03)	(0.04)
Ever cooperated in any activity	0.86	0.81	-0.06***	0.95	0.95	0.00	0.71	0.63	-0.08**
	(0.34)	(0.40)	(0.02)	(0.01)	(0.02)	(0.02)	(0.03)	(0.03)	(0.04)
Coop Average	0.56	0.49	-0.07***	0.63	0.58	-0.05*	0.30	0.28	-0.02
	(0.33)	(0.34)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)
Ever cooperated with a woman							0.22	0.53	0.31***
							(0.02)	(0.03)	(0.04)
Ever cooperated with a man							0.68	0.26	-0.42***
							(0.03)	(0.03)	(0.04)
Share of partners of different gender							0.11	0.18	0.06***
							(0.01)	(0.02)	(0.02)
Number of Partners							1.67	1.28	-0.39***
							(0.09)	(0.07)	(0.12)
Panel C: Knowledge sharing									
Learnt from family or friends	0.42	0.25	-0.17***	0.42	0.20	-0.22***			
	(0.49)	(0.43)	(0.02)	(0.03)	(0.04)	(0.05)			
Learnt from entrepreneur	0.35	0.17	-0.18***	0.40	0.23	-0.17***			
	(0.48)	(0.38)	(0.02)	(0.03)	(0.04)	(0.05)			
Learnt from entrepreneur in same sector	0.26	0.13	-0.13***	0.31	0.16	-0.15***			
	(0.44)	(0.33)	(0.02)	(0.02)	(0.03)	(0.05)			
Learnt through formal training	0.15	0.52	0.37***	0.12	0.49	0.38***			
	(0.36)	(0.50)	(0.02)	(0.02)	(0.04)	(0.04)			
Ever taught others	0.71	0.64	-0.08***	0.83	0.68	-0.15***			
	(0.45)	(0.48)	(0.02)	(0.02)	(0.04)	(0.04)			
Talk frequently with others about business	0.52	0.49	-0.04	0.62	0.55	-0.07			
	(0.50)	(0.50)	(0.02)	(0.03)	(0.04)	(0.05)			

Panel A shows mean differences in trust, Panel B shows mean differences in cooperation and Panel C mean differences in knowledge sharing between women and men. The variables 'Trust in Strangers' and 'Trust in Neighbours' are measured on a scale from 1-4, and have been converted into dummy variables by combining low scores (1 and 2) and high scores (3 and 4). Low scores were given a value of 0, and high scores a value of 1. The 'Feel safe leaving shop empty' variable is measured in a scale from 1-5, converted into a dummy variable equal to 1 if people agree or strongly agree with the statement that they feel safe leaving their shop unattended for 30 minutes. The variable 'Trust GSS' is a dummy measuring whether most people can be trusted or not: a value of 1 indicates that 'most people can be trusted', and a value of 0 indicates that 'you cannot be too careful in dealing with people'. The variables 'Joint Buy', 'Lent', 'Advice' and 'Share Order' are dummies that indicate whether a person ever engaged in the relevant activity. The variable 'Coop Average' is an index of cooperative behavior, calculated as a simple average of the four dummies 'Joint Buy', 'Lent', 'Advice' and 'Share Order'. The variable 'Ever cooperated with a male' and 'Ever cooperated with a female' is a dummy equalt to 1 if any of the partners of the past is male or female accordingly. The variable 'share of partners of different gender' measures the share of different gender partner among the 6 most important partners of the past. The variable 'Number of partners' measures number of partners in the last 12 months. Variables 'Learnt from' show answers to the question 'Who taught you how to do this job?'. Formal training was mainly interpreted classroom training, usually delivered by the government or NGOs and other associations. The variable 'Ever taught others' is equal to one if a person says that s/he 'ever taught her/his job to anyone else, who afterwards started a business', and zero otherwise. 'Talk frequently with others about business' is a dummy constructed for values above the median in answers to the question 'Consider other business owners in your sector in this neighborhood. How many times do you talk about topics related to the business?'. Answers were given on a 5-Likert scale: Never, Once a Month, Between 1 and 4 times a month, More than once a week, Every day. The dummy takes value one for the two highest values (median is 4). The sample in the first three columns comes from our Census of Small-Scale Manufacturers in Lusaka (N=2,216), for columns (4) to (6) from participants in experiment 1 (N=477) and for columns (7) to (9) from participants in experiment 2 (N=594). Stars denote statistical significance of the two-sided t-test by gender. *** denotes p<0.01, ** denotes p<0.05, and * denotes p<0.1.

Table 2: Learning History and Sales

	Learnt from			Logged Sales		Employment	
	(1) Owner	(2) Owner in same sector	(3) Family or friends	(4) Good Week	(5) Bad Week	(6) Level	(7) Growth
Female	-0.184***	-0.132***	-0.153***	-0.616***	-0.720***	-0.533***	-0.0680
	(0.0215)	(0.0191)	(0.0236)	(0.0934)	(0.114)	(0.168)	(0.0640)
Informal learning				0.0512	0.0664	-0.0783	0.0563
				(0.0780)	(0.0931)	(0.152)	(0.0648)
Female*Informal learning				0.353***	0.347**	0.299	-0.0290
				(0.121)	(0.155)	(0.202)	(0.0841)
Observations	2081	2081	2072	1963	1752	2079	2004
Adjusted R^2	0.051	0.035	0.074	0.163	0.132	0.176	0.020
Mean Dep Var	.3	.22	.37	7.08	5.85	1.91	.15
SD Dep Var	.46	.41	.48	1.24	1.41	2.23	1.04
Density Controls	✓	✓	✓	✓	✓	✓	✓
Owner Controls	✓	✓	✓	✓	✓	✓	✓
Industry Fixed Effects							

The variables "Owner", "Owner in same sector", "Family or Friends" are dummies that indicate whether an entrepreneur learnt the job from each category. "Informal learning" is a dummy for whether the owner learnt the business from any of the previous three categories. Density Controls include a dummy variable for whether the business is located within 100 meters of a market, the total number of businesses within 100 meters, the number of business from the same sector within 100 meters and population density in the ward where the business is located. Owner Controls includes owner's age, business age, how many days the business owner spends working in the business, educational dummies and whether business owner is married or not. In columns (4) and (5), the dependent variables are the log of the answers given when asked the sales in a good week and the sales in a bad week. If the person could not provide an exact number, we also asked for an upper and lower bound. We then imputed the average of the bounds to the sales variables. In Column (6), the dependent variable is the number of full-time employees. In Column (7), the dependent variable is the growth rate in the number of full-time employees since the start of the business. The sample comes from our Census of Small-Scale Manufacturers in Lusaka (N=2,216). Differences in observations are due to missing owner controls. Robust SE in parentheses. Sales Variables subject to 1% asymmetric winsorization. * p<0.10, ** p<0.05, *** p<0.01

Table 3: Local Adjudication, Cooperation and Economic Performance

	(1)	(2)	(3)	(4)	(5)
		Collaboration Activities			
	Avg coop	Share order	Lent	Advice	Joint buy
Panel A: Cooperation					
Female	-0.102***	-0.078*	-0.140***	-0.082**	-0.106**
	(0.029)	(0.040)	(0.040)	(0.037)	(0.043)
	[0.000]				
In market	0.081**	0.117**	0.108**	-0.016	0.115**
	(0.031)	(0.052)	(0.053)	(0.047)	(0.048)
	[0.016]				
Female × In market	0.081**	0.072	0.109*	0.064	0.080
	(0.040)	(0.051)	(0.056)	(0.048)	(0.057)
	[0.029]				
P-value (In + Fem.*In = 0)	0.00	0.01	0.00	0.48	0.00
P-value (Fem + Fem.*In = 0)	0.41	0.84	0.39	0.54	0.43
Observations	2214	2214	2214	2214	2214
Mean Dep Var	0.54	0.57	0.52	0.75	0.32
SD Dep Var	0.33	0.50	0.50	0.44	0.47
Controls: Business Density Control	✓	✓	✓	✓	✓
Controls: Business Ownership Control					
Controls: Industry FE					
Controls: Market FE	✓	✓	✓	✓	✓

	(1)	(2)	(3)	(4)	(5)
		Mean Sales		Employment	
	Index	Levels	Logs	Levels	Growth
Panel B: Economic Performance					
Female	-0.135**	-772.011**	-0.269**	-0.221*	-0.144**
	(0.058)	(309.968)	(0.107)	(0.127)	(0.067)
	[0.000]				
In market	-0.227**	-1031.877*	-0.420**	-0.366	-0.009
	(0.096)	(526.244)	(0.177)	(0.252)	(0.109)
	[0.000]				
Female × In market	0.152***	761.011**	0.139	0.324***	0.198***
	(0.054)	(311.681)	(0.123)	(0.121)	(0.067)
	[0.096]				
P-value (In + Fem.*In = 0)	0.48	0.61	0.09	0.88	0.15
P-value (Fem + Fem.*In = 0)	0.52	0.93	0.07	0.09	0.16
Observations	2212	2087	2079	2210	2102
Mean Dep Var	0.02	1861.26	6.65	1.94	0.15
SD Dep Var	0.93	3563.94	1.27	2.22	1.03
Controls: Business Density Control	✓	✓	✓	✓	✓
Controls: Business Ownership Control					
Controls: Industry FE	✓	✓	✓	✓	✓
Controls: Market FE	✓	✓	✓	✓	✓

The variables in Panel A 'Joint Buy', 'Lent', 'Advice' and 'Share Order' are dummies that indicate whether a person ever engaged in the relevant activity. The variable 'Mean Collab' is an index of cooperative behavior, calculated as a simple average of the four dummies 'Joint Buy', 'Lent', 'Advice' and 'Share Order'. The variable 'In market' is an indicator of value one if the business is located inside a formal market. In Panel B the Index of economic performance is obtained by standardizing mean sales in levels and employment levels (separately) and then by taking the average of these two standardized values. The variable 'In Market' is an indicator of value one if the business is located in the local market and 0 otherwise. Standard errors are clustered at the marketplace level. The sample comes from our Census of Small-Scale Manufacturers in Lusaka (N=2,216). Clustered standard errors in parentheses. MHT corrected p-values are shown in brackets. *** denotes p<0.01, ** denotes p<0.05, and * denotes p<0.1.

Table 4: Experiment 1 - Games' Behavior and Earnings: No Chief vs Gender Blind Chief

Panel A: Behavior	(1) Tokens	(2) Investor Sent	(3) Average	(4) Return Ratio
Female	-1.005***	-0.792**	-0.044**	-0.027
	(0.331)	(0.378)	(0.020)	(0.021)
	[0.027]	[0.017]	[0.730]	[0.542]
	{0.005}	{0.043}	{0.032}	{0.214}
Chief	-0.022	-0.133	0.014	0.003
	(0.362)	(0.371)	(0.019)	(0.018)
	[0.960]	[0.802]	[0.475]	[0.871]
	{0.837}	{0.582}	{0.370}	{0.693}
Female × Chief	1.365**	1.550**	-0.012	0.000
	(0.632)	(0.646)	(0.037)	(0.037)
	[0.073]	[0.083]	[0.776]	[0.994]
	{0.040}	{0.019}	{0.763}	{0.986}
P-value(Ch Blind + Fem.*Ch Blind = 0)	0.02	0.02	0.94	0.93
P-value(Fem + Fem.*Ch Blind = 0)	0.49	0.18	0.08	0.39
Observations	283	283	284	284
Mean	4.08	4.08	0.45	0.45
Individual Controls		Yes		Yes
Panel B: Earnings	(1) Investor's earnings	(2)	(3) Trustee's earnings	(4)
Female	-0.218	-0.142	-0.241	-0.696
	(0.324)	(0.297)	(0.777)	(0.940)
	[0.106]	[0.373]	[0.542]	[0.136]
	{0.529}	{0.651}	{0.741}	{0.442}
Chief	0.507*	0.556*	-0.532	-0.504
	(0.298)	(0.309)	(0.641)	(0.665)
	[0.129]	[0.099]	[0.426]	[0.436]
	{0.062}	{0.061}	{0.429}	{0.565}
Female × Chief	0.728	0.659	1.687	1.292
	(0.659)	(0.665)	(1.253)	(1.318)
	[0.251]	[0.301]	[0.271]	[0.400]
	{0.309}	{0.357}	{0.179}	{0.314}
P-value(Ch Blind + Fem.*Ch Blind = 0)	0.04	0.05	0.33	0.54
P-value(Fem + Fem.*Ch Blind = 0)	0.35	0.38	0.15	0.61
Observations	283	283	284	284
Mean	9.00	9.00	9.00	9.00
Individual Controls		Yes		Yes

Robust standard errors in parentheses. Randomization inference and multiple hypothesis testing corrected p-values in brackets and curly brackets respectively.
* p<0.10, ** p<0.05, ***p<0.01

The dependent variable in Panel A, Columns (1) and (2) is the number of tokens sent by the Investor, in Column (3) and (4) is the average return ratio by the Trustee. The dependent variables in Panel B, Columns (1) and (2) are the Investor's earnings, and in (3) and (4) are the Trustee's earnings. Investor and Trustee "Individual controls" include whether the individual is in manufacturing, age, age squared, dummies for primary and secondary education, a dummy for the individual being married, the number of days per week worked by the owner as well as the number of hours per day the number of collaborations the individual has had in the past 12 months, the number of years the business has been operating in the market, a dummy for agreeing with the statement that "most people can be trusted", a dummy for the individual agreeing with the statement "I am comfortable leaving my shop unattended during the day if I need to do something outside of the market or in another part of the market for 30 minutes", a dummy for whether the individual has a smart phone, the number of full-time employees, a dummy for agreeing with the statement "Have you ever heard of the small claims court?", dummies for belonging to the Bemba, Chewa or Nsenga ethnicities, and a dummy for the individual having had any business dispute in the past 12 months. All regressions include a dummy for the round played and for the control group in the "outsider" condition. The regressions exclude the Small Claims Court treatment.

Table 5: Experiment 2 - Games' Behavior and Earnings: Gender Blind vs Gender Aware Chief

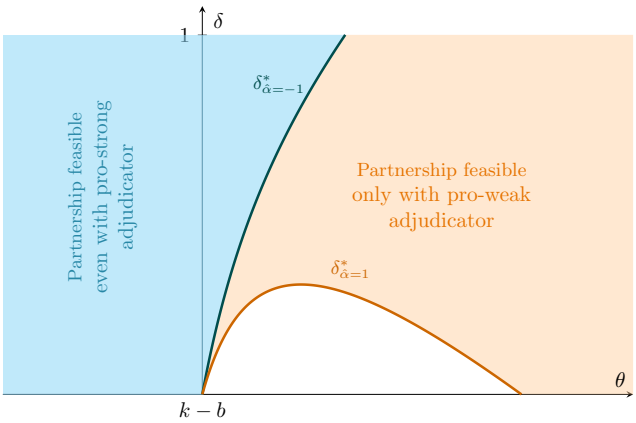
Panel A: Behavior	(1) Tokens Investor Sent	(2)	(3) Average Return Ratio	(4)
Female	-0.904**	-0.717	-0.007	-0.000
	(0.401)	(0.440)	(0.017)	(0.021)
	[0.030]	[0.040]	[0.990]	[1.000]
	{0.055}	{0.193}	{0.708}	{0.987}
Chief: Gender Aware	-0.335	-0.272	0.044**	0.045**
	(0.409)	(0.411)	(0.018)	(0.019)
	[0.480]	[0.570]	[0.040]	[0.040]
	{0.420}	{0.502}	{0.099}	{0.127}
FemaleXChief: Gender Aware	1.286**	1.127**	-0.063***	-0.068***
	(0.551)	(0.568)	(0.023)	(0.025)
	[0.020]	[0.050]	[0.010]	[0.010]
	{0.058}	{0.115}	{0.054}	{0.051}
P-value (Fem + Fem*Ch Aware = 0)	0.314	0.347	0.000	0.000
P-value (Ch Aware + Fem.*Ch Aware = 0)	0.011	0.032	0.211	0.139
Observations	297	297	297	297
DV Mean	4.431	4.431	0.442	0.442
Individual controls		Yes		Yes
Panel B: Earnings	(1) Investor's Earnings	(2)	(3) Trustee's Earnings	(4)
Female	-0.452	-0.648*	1.156*	1.359*
	(0.316)	(0.382)	(0.685)	(0.707)
	[0.350]	[0.260]	[0.220]	[0.120]
	{0.551}	{0.415}	{0.431}	{0.292}
Chief: Gender Aware	0.346	0.450	0.379	0.596
	(0.370)	(0.359)	(0.583)	(0.606)
	[0.390]	[0.200]	[0.530]	[0.380]
	{0.837}	{0.639}	{0.761}	{0.690}
FemaleXChief: Gender Aware	0.375	0.373	-0.704	-1.078
	(0.482)	(0.482)	(0.891)	(0.908)
	[0.470]	[0.450]	[0.420]	[0.230]
	{0.829}	{0.685}	{0.867}	{0.619}
P-value (Fem + Fem*Ch Aware = 0)	0.834	0.521	0.427	0.649
P-value (Ch Aware + Fem.*Ch Aware = 0)	0.021	0.015	0.629	0.461
Observations	297	297	297	297
DV Mean	11.939	11.939	6.923	6.923
Individual controls		Yes		Yes

Robust standard errors in parentheses. Randomization inference and multiple hypothesis testing corrected p-values in brackets and curly brackets respectively.
* p<0.10, ** p<0.05, ***p<0.01

The dependent variable in Panel A, Columns (1) and (2) is the number of tokens sent by the Investor, in Column (3) and (4) is the average return ratio by the Trustee. The dependent variables in Panel B, Columns (1) and (2) are the Investor's earnings, and in (3) and (4) are the Trustee's earnings. Investor and Trustee "Individual controls" include age, age squared, dummies for primary and secondary education, a dummy for the individual being married, the number of years the business has been operating in the market, the number of days per week worked by the owner as well as the number of hours per day, a dummy for the individual having had any collaboration in the past 12 months, the number of collaborations the individual has had in the past 12 months, a dummy for agreeing with the statement that "most people can be trusted", a dummy for the individual agreeing with the statement "I am comfortable leaving my shop unattended during the day if I need to do something outside of the market or in another part of the market for 30 minutes", dummies for belonging to the Bemba, Chewa or Nsenga ethnicities, and a dummy for the individual having had any business dispute in the past 12 months.

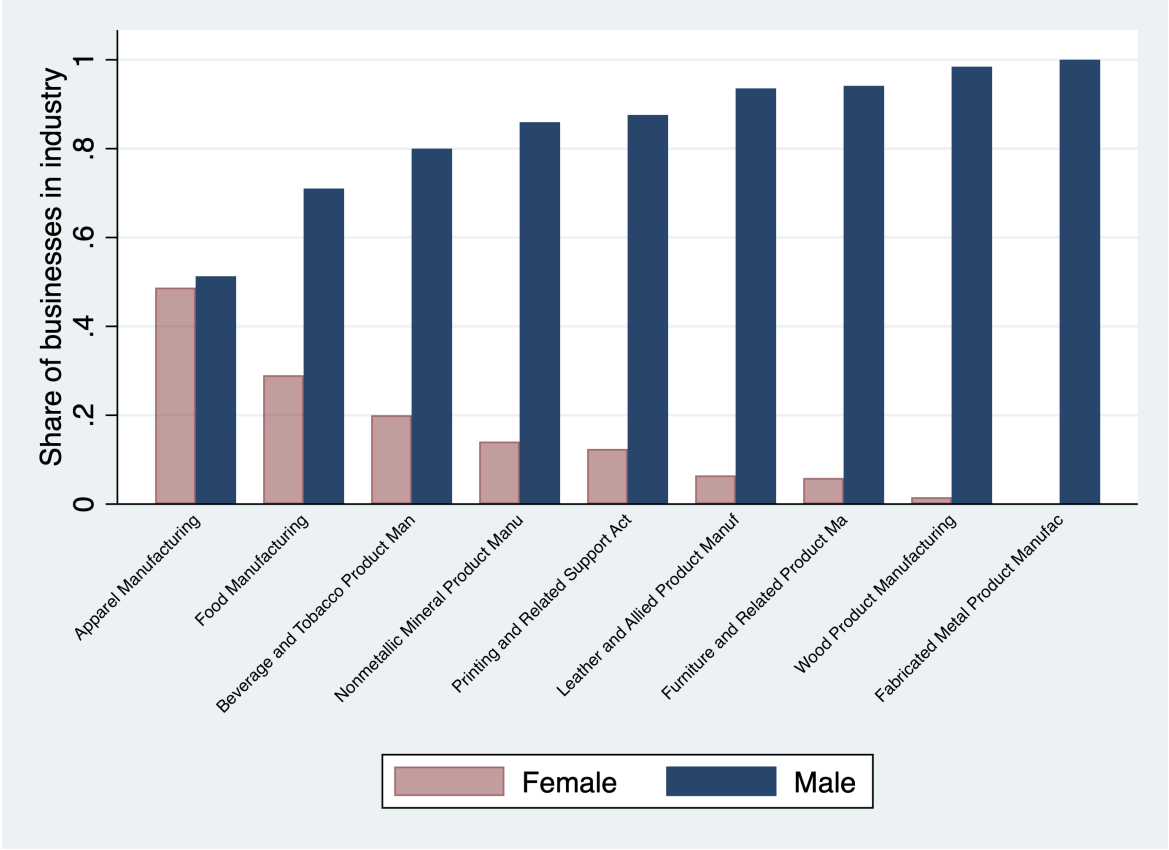
Figures

Figure 1: Theoretical Predictions



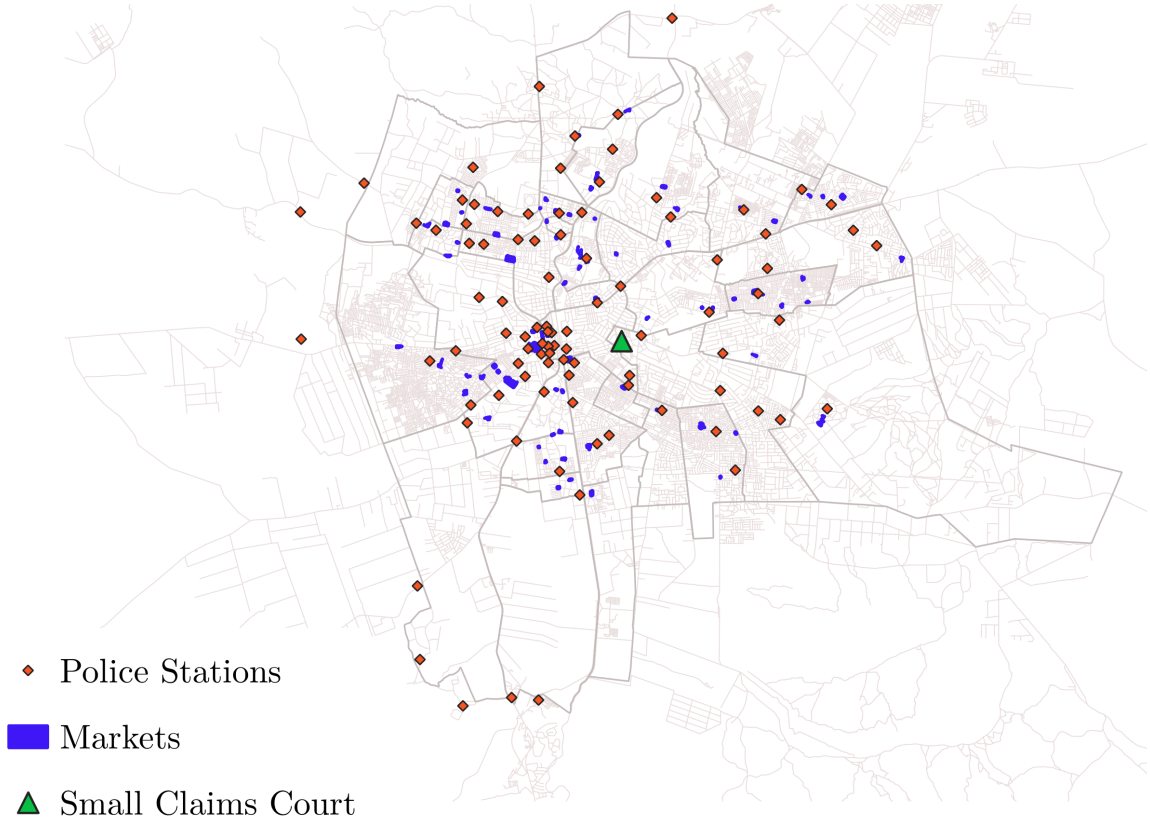
This figure illustrates the predictions of Proposition 1. Partnership is sustainable when legal quality δ exceeds the threshold $\delta^*(\theta) = \frac{b-k+\theta}{\Delta+b-k+\theta} - \hat{\alpha}\,\theta$. In the plot we fix $b = k = 1$ and $\Delta = 0.2$, so $\delta^*(\theta) = \frac{\theta}{0.2+\theta} - \hat{\alpha}\theta$. **Curves.** The blue solid curve shows $\delta^*(\theta)$ when the adjudicator is biased in favor of the powerful ($\hat{\alpha} = -1$); the orange solid curve shows the threshold when the adjudicator favors the weak ($\hat{\alpha} = +1$). **Shaded regions.** For power gaps $\theta \leq k - b = 0$ (blue strip on the left of $k - b = 0$) the entrepreneur is strong enough to deter cheating on her own, so partnership always forms. For $\theta > k - b = 0$ partnership is feasible for (θ, δ) pairs lying *above* the relevant curve. The orange wedge marks situations in which partnership can be sustained only by a protector of the weak, whereas the blue wedge above the blue curve indicates values where even a pro-strong adjudicator suffices.

Figure 2: Distribution across Industries by Gender



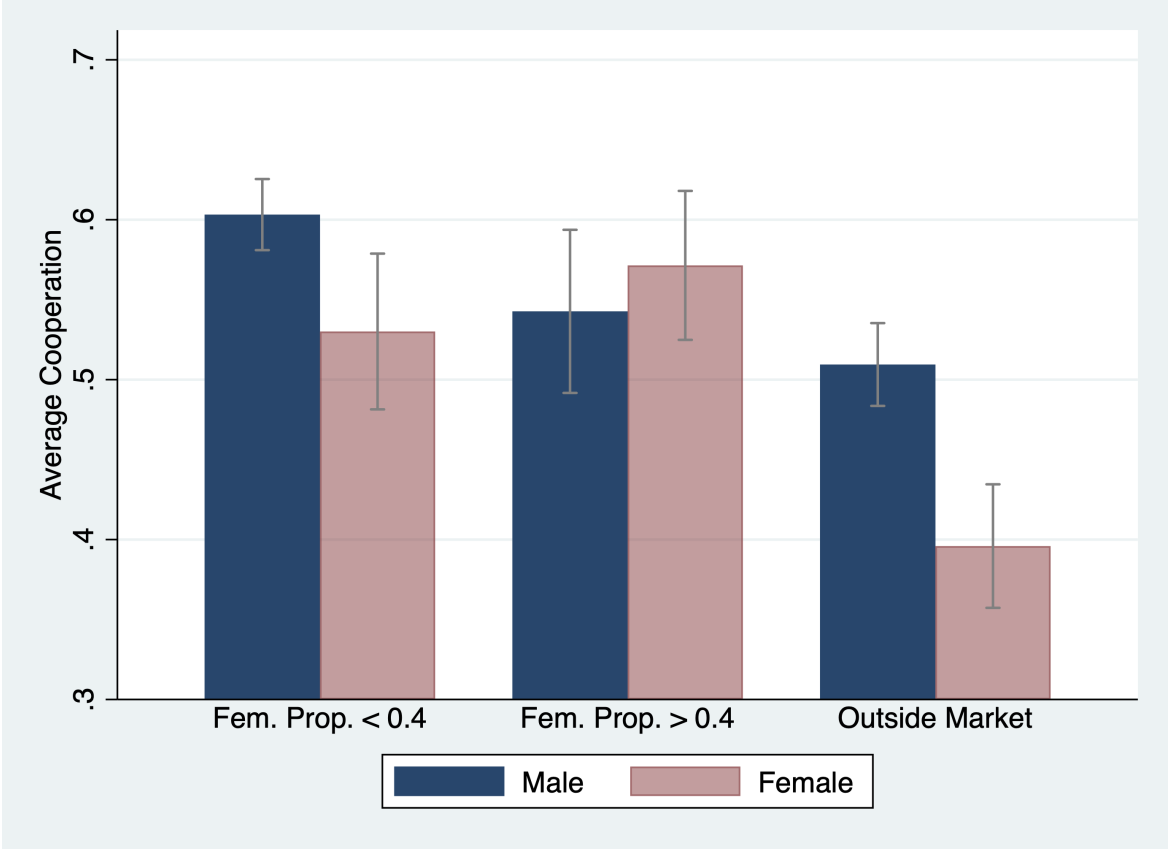
This figure shows the industries in which manufacturers from the Lusaka Census of Urban Entrepreneurs operate, by gender. Gender data are available for 97% of businesses in manufacturing, construction and mining with less than 20 employees (N=3723). The graph shows only industries with more than 10 businesses in our data.

Figure 3: Local Institutions in Lusaka



The figure shows the spacial distribution of local institutions in Lusaka. The blue dots show where markets are located, the green triangle shows the Small Claims Court and the red diamonds show the location of police stations.

Figure 4: Cooperation by Gender and Market Location

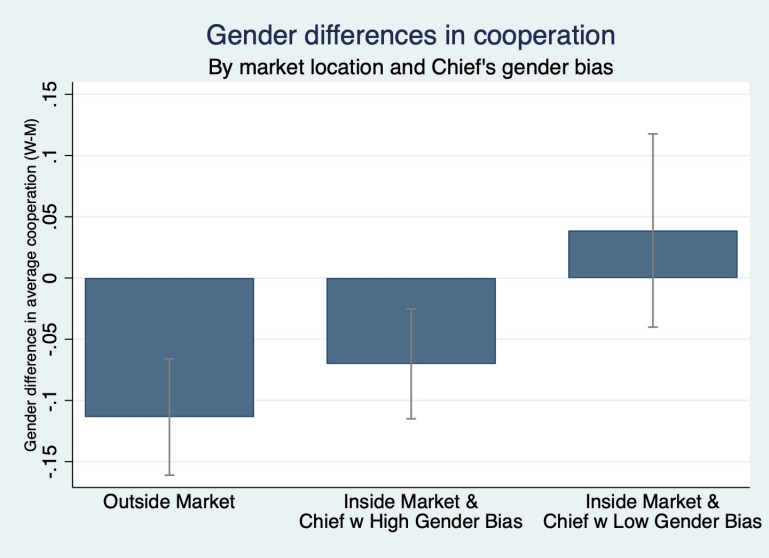


This figure shows the average cooperation of female and male-led businesses in markets with a large or a small share of female businesses, or outside of markets. The threshold of 0.4 corresponds to the 75^{th} percentile of the distribution of gender shares across markets. The sample comes from our Census of Small-Scale Manufacturers in Lusaka (N=2,216).

Figure 5: Cooperation by Gender and Industry

This figure shows the proportion of men and women engaging in each of the collaboration activities we asked about, and their level of average cooperation (last bar). The variables "Joint Buy", "Lent", "Advice" and "Share Order" are dummies that indicate whether a person ever engaged in the relevant activity. The variable "Coop Average" is an index of cooperative behavior, calculated as a simple average of the four dummies "Joint Buy", "Lent", "Advice" and "Share Order". The sample comes from our Census of Small-Scale Manufacturers in Lusaka (N=2,216).

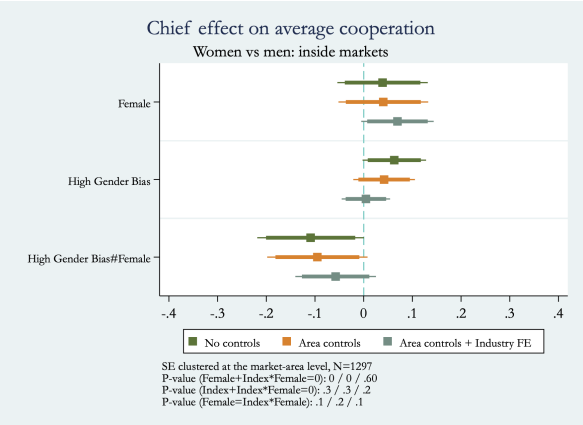
Figure 6: Gender Gap in Cooperation by Chief's Gender Bias



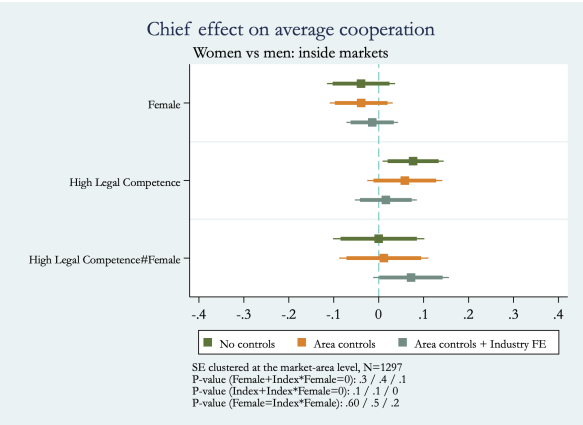
This figure shows the difference in average cooperation between women and men outside markets, inside markets with a chief with above median gender bias and inside markets with a chief with below median gender bias. Average cooperation is an index of cooperative behavior, calculated as a simple average of the four dummies "Joint Buy", "Lent", "Advice" and "Share Order" defined in the main tables. Error bars show 95% confidence intervals. The construction of the gender bias index is explained in Appendix D.

Figure 7: Market Effect on Female Cooperation by Chief's Characteristics: Women vs Men Inside Markets

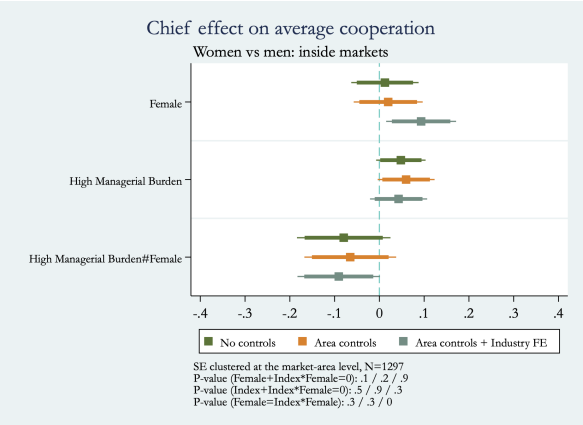
(a). Cooperation and Chief's Bias



(b). Cooperation and Chief's Legal Competence

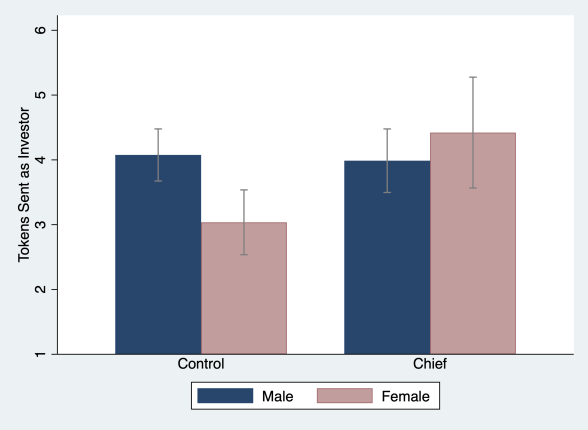


(c). Cooperation and Chief's Managerial Duties



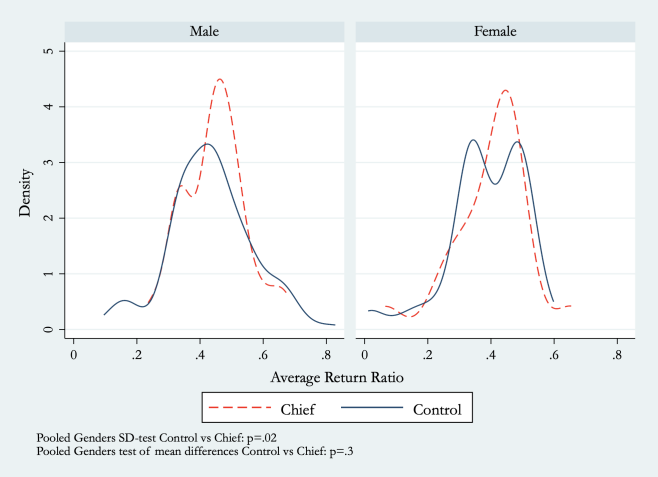
Each figure in Panels (a), (b) and (c) show the coefficients of three regressions, which differ only in the controls used. All the specifications regress average cooperation on a dummy variable for being a female owner ("Female"), a dummy variable for having a chief with above average score on a certain index and the interaction between the two. In Panel (a), the dummy is for above-median score in the index of gender bias. In Panel (b), the variable is for above-median score in the index of legal competence and in Panel (c) for above-median managerial duties. The top coefficient (dark green) is for a regression with no additional control, the intermediate (orange) coefficient is for a regression with density controls and the bottom coefficient (light green) is for a regression with density controls and industry fixed effects (Naics 3). Average cooperation is an index of cooperative behavior, calculated as a simple average of the four dummies "Joint Buy", "Lent", "Advice" and "Share Order" defined in the main tables. Error bars show 95% and 90% confidence intervals. The construction of the indexes on gender bias, legal competence and managerial duties is explained in Appendix D.

Figure 8: Experiment 1: Number of Tokens Sent by Gender: Control vs Gender Blind Chief



This figure shows the number of tokens sent by gender and treatment group. The control group includes both businesses located inside markets and outside markets. Data are from the experimental games (N=477).

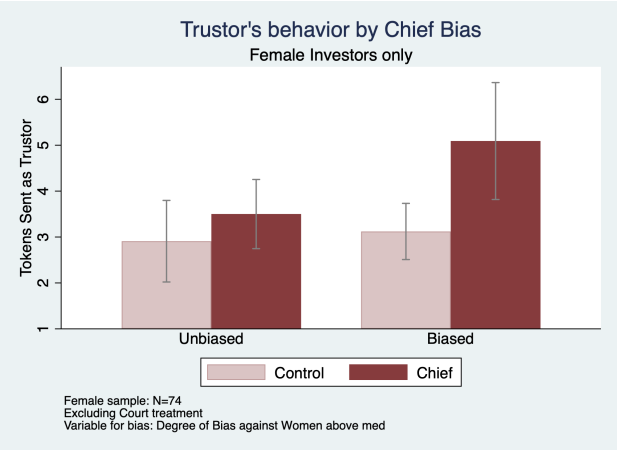
Figure 9: Experiment 1: Distribution of Average Return Ratios by Gender: Control vs Gender Blind Chief



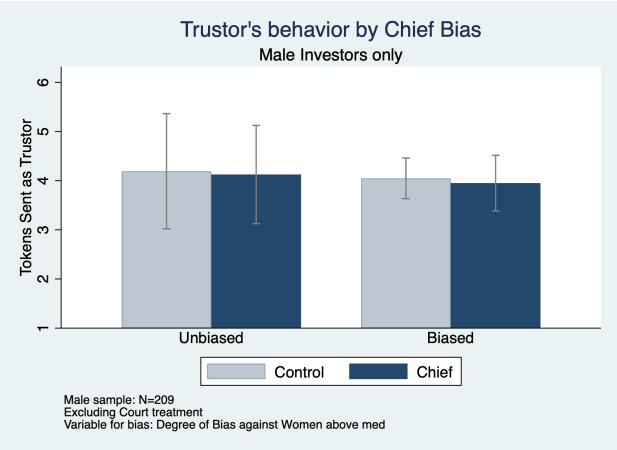
This figure shows the distribution of average return ratios by treatment (Chief or Control) and gender. The control group includes both businesses located inside markets and outside markets. Data are from the experimental games (N=477).

Figure 10: Experiment 1: Number of Tokens Sent by Market Chief's Gender Bias: Control vs Gender Blind Chief

(a). Tokens Sent by Women



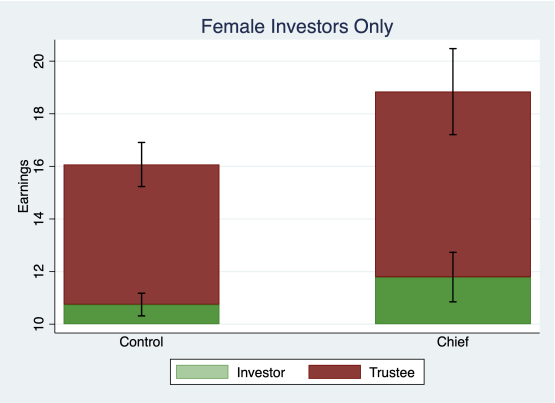
(b). Tokens Sent by Men



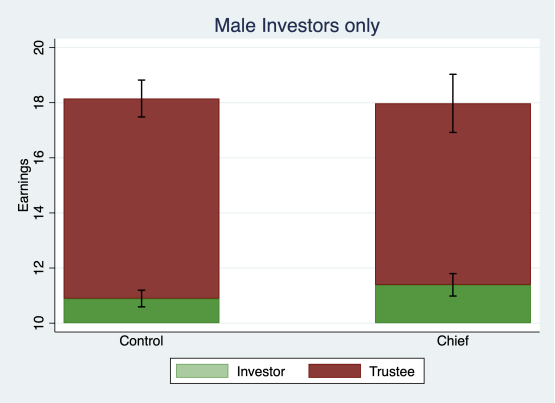
This figure shows the number of tokens sent by women (left) and men (right), splitting the sample by markets with better - or worse - than median market chief's gender bias. Chief's gender bias is an index constructed from the following survey variables: whether the chief follows subjective rules to arbitrate disputes, whether the chief thinks that a woman does not usually win in inter-gender disputes, whether the chief is more effective at catching perpetrators of thefts against men, World Value Survey (WVS) and World Justice Project (WJP) gender attitudes. More details on the index construction are reported in Appendix D. The control group includes both businesses located inside markets and outside markets. Data are from the experimental games (N=477) and the market chief survey.

Figure 11: Experiment 1: Distribution of Total Earnings between Investor and Trustee by Investor's Gender: Control vs Gender Blind Chief

(a). Female Investors



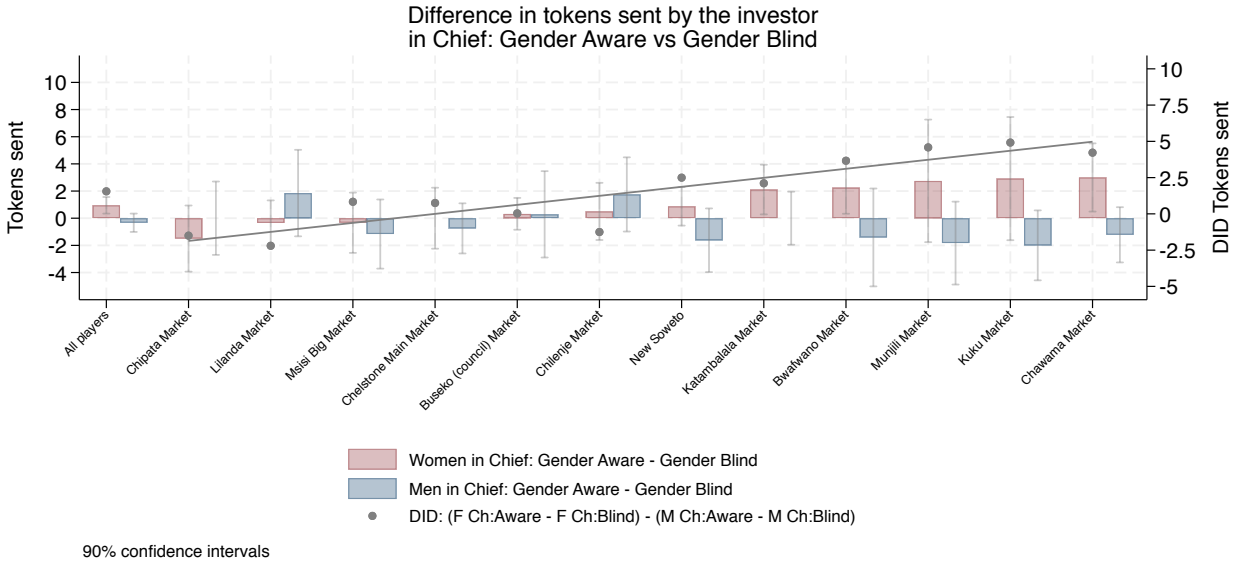
(b). Male Investors



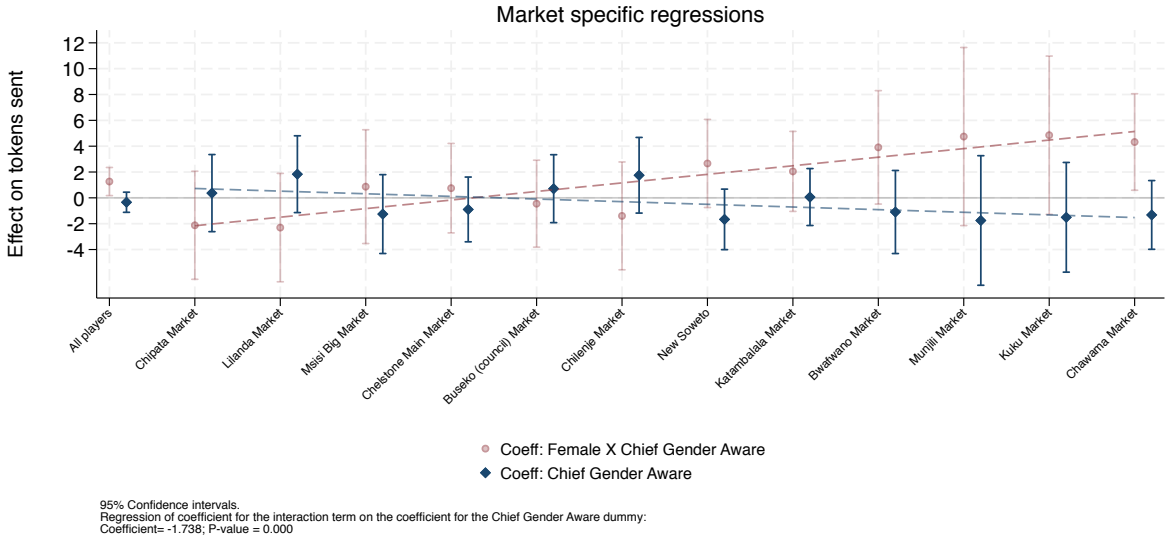
This figure shows the distribution of total final earnings in rounds with a female Investor (Panel a) and male investor (Panel b). The control group includes both businesses located inside markets and outside markets. Data are from the experimental games (N=477).

Figure 12: Experiment 2: Market Specific Treatment Effects by Gender - Gender Aware vs Gender Blind Chief

(a)



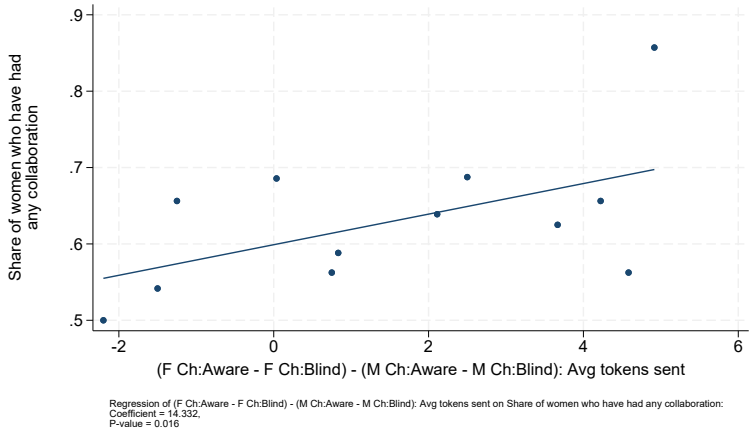
(b)



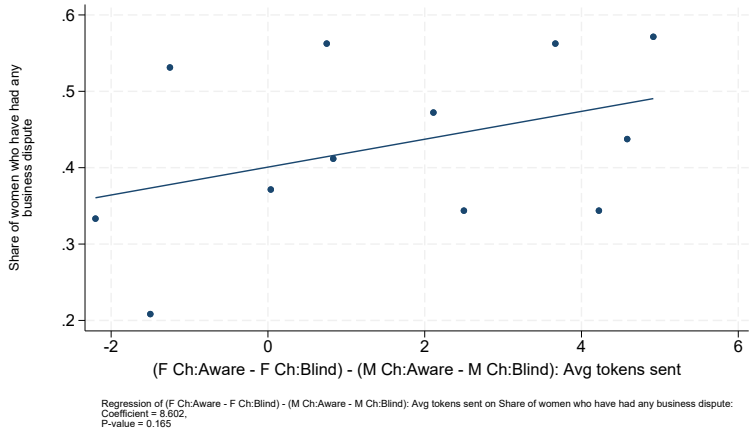
Panel (a) plots the difference in tokens sent by Investors between the Chief: Gender Aware and Chief: Gender Blind treatments, separately by gender. The first set of bars shows the average differences; the remaining twelve show market-specific differences, with markets ordered by the size of the Gender Aware–Gender Blind difference for female investors. The solid grey line and dots indicate the difference-in-differences. Panel (b) reports coefficients from a regression of tokens sent on a Chief: Gender Aware dummy (blue), a female dummy and its interaction with a female dummy (pink). The first two coefficients show average effects; the remaining twelve show market-specific effects, with markets ordered as in Panel (a). Data are from Experiment 2 ($N = 153$ women, $N = 144$ men).

Figure 13: Experiment 2: Market Heterogeneity in Treatment Effects and Key Market Features

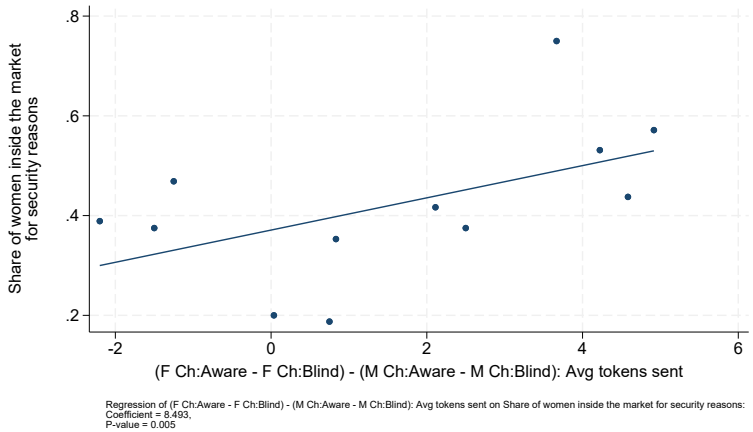
(a). Revelation Trust Premium and Female collaboration



(b). Revelation Trust Premium and Female Disputes



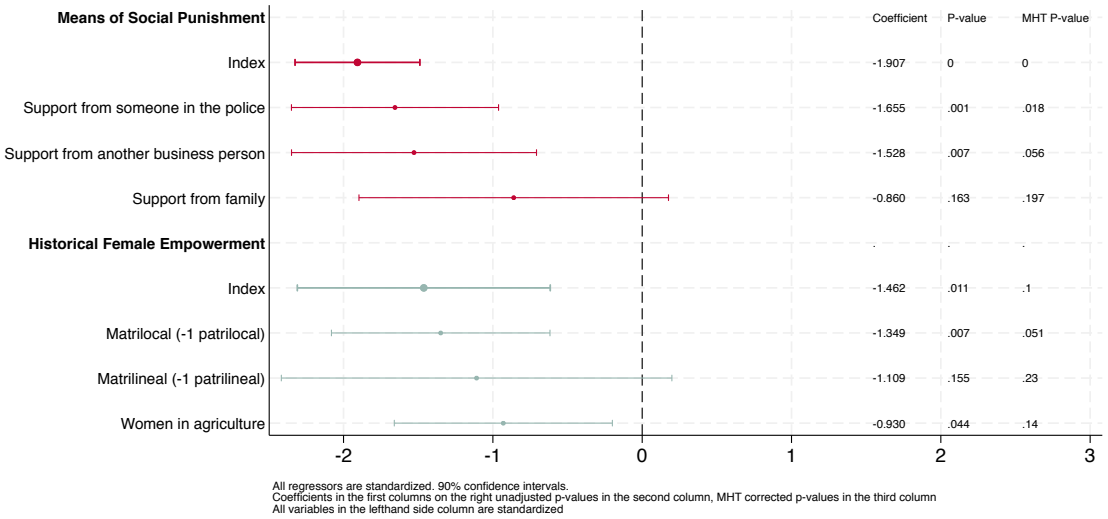
(c). Revelation Trust Premium and Female Demand for Security



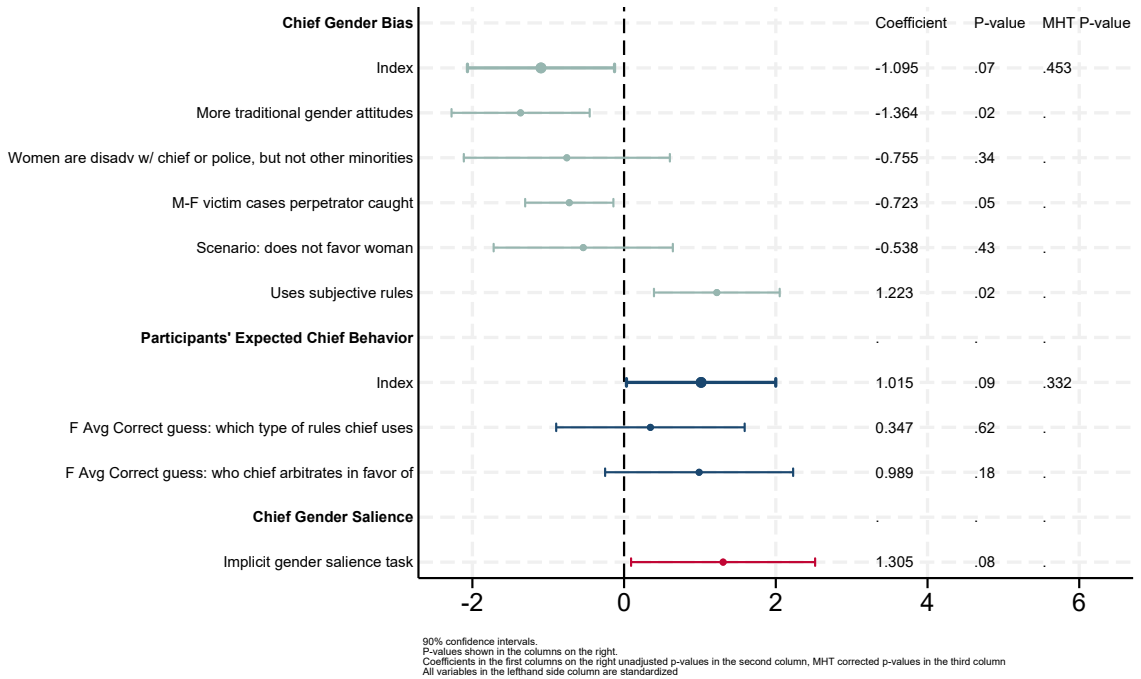
The graphs show the relationship between the difference in difference in tokens sent ((Female Chief:Aware - Female Chief:Blind) - (Male Chief:Aware - Male Chief:Blind)) on some features of the markets: share of women who have collaborated in the past 12 months (Panel (a)), share of women who have had a dispute in the past 12 months (Panel (b)) and share of women who report being inside a market for security and safety reasons (Panel (c)). All variables are at the market level (N=12).

Figure 14: Experiment 2: Female Power and Chief Gender Bias Predict Market Heterogeneity in Revelation Trust Premium

(a). Female Power



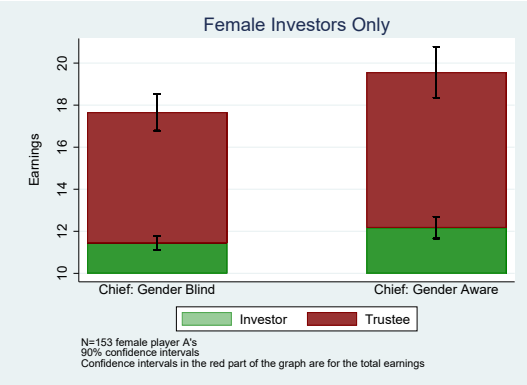
(b). Chief's bias, gender salience and participants' expectations



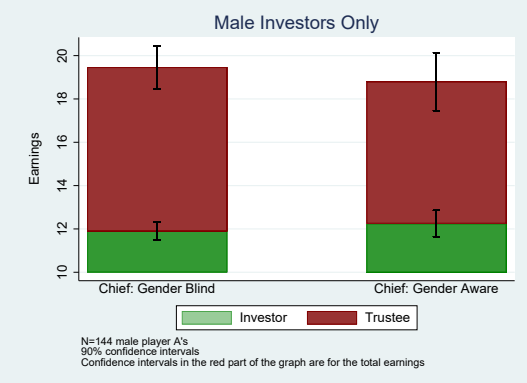
The graphs show the coefficients of several market-level regressions of the difference-in-difference (DID) in trust (i.e. tokens sent by women in (Chief:Aware - Chief:Blind) - men in (Chief:Aware - Chief:Blind)) with female marketeers' or chief's features. Panel (a) shows correlations of the DID on proxies for female power and Panel (b) for chief gender bias, salience as well as expectations about the chief's behavior. The construction of the indices is described in Appendix D. All regressors are standardized, and all variables are at the market level (N=12).

Figure 15: Experiment 2: Distribution of Total Earnings between Investor and Trustee by Investor's Gender

(a). Female Investors



(b). Male Investors



This figure shows the distribution of total final earnings in rounds with a female Investor (Panel a) and male investor (Panel b). Data are from the experimental games (N=594).

Appendices

A Proofs

Proof of Proposition 1.

Proceeding recursively, we begin with P's decision about whether or not to shirk. If $k - b > \theta$, then shirking will never occur, as the benefit is less than the minimal punishment that will occur. If $k - b < \theta$, then shirking generates a benefit of b but a cost of $b + \Delta$ with probability $\delta + \hat{\alpha}\theta$ and a cost of $k - \theta$ with probability $1 - \delta - \hat{\alpha}\theta$. If $b - k + \theta > 0$, then shirking occurs if and only if $(\delta + \hat{\alpha}\theta)\Delta < (1 - \delta - \hat{\alpha}\theta)(b - k + \theta)$ or $\frac{b-k+\theta}{\Delta+b-k+\theta} - \hat{\alpha}\theta = \delta^* > \delta$ and partnership will not occur if shirking occurs. Hence partnerships only occurs if $\delta > \delta^*$ and δ^* is greater than $-\alpha\theta$ as long as $b - k + \theta > 0$, and less than $1 - \hat{\alpha}\theta$ as $\Delta > 0$. Differentiation gives us that δ^* is always declining with Δ and k and increasing with b, and decreasing with $\hat{\alpha}$ if and only if $\theta > 0$ and increasing with θ if and only if $\frac{\Delta}{(\Delta+b-k+\theta)^2} > \hat{\alpha}$.

Proof of Proposition 2.

If θ is unknown to the adjudicator and $k - b < \theta$, then shirking generates a benefit of b but a cost of $b + \Delta$ with probability δ and a cost of $k - \theta$ with probability $1 - \delta$. Hence shirking occurs if and only if $(\delta)\Delta < (1 - \delta)(b - k + \theta)$ or $\frac{b-k+\theta}{\Delta+b-k\theta} = \delta^{**} > \delta$ and $\delta^{**} = \delta^* + \hat{\alpha}\theta$. Differentiation gives us that δ^{**} is always declining with Δ and k and increasing with b and θ. If $\hat{\alpha} > 0$ and $\theta > 0$, then E is better off by revealing her gender, because $\delta^{**} > \delta^*$ and there are parameter values for which E will partner when there is revelation but not without revelation. When there is partnership E earns positive profits and she earns nothing when there is no partnership.

Proof of Proposition 3.

With probability $1 - m_i$, E is partnered with a woman and there is no shirking and, consequently, her returns are $\pi - 2q$. If P is a man, then P will shirk if and only if $(\delta + \hat{\alpha}_i\theta_G)\Delta < (1 - \delta - \hat{\alpha}_i\theta_G)(b - k + \theta_G)$ or $\hat{\alpha}_i\theta_G < 1 - \delta - \frac{\Delta}{\Delta+b+\theta_G-k}$. If shirking doesn't occur, the returns to E will equal $(\pi - 2q)$ and entry will only occur if $(\pi - 2q) > f_i$. If shirking occurs, the returns to E will drop to $(1 - m_i)(\pi - 2q)$ and entry will only occur if $(1 - m_i)(\pi - 2q) > f_i$.

B Games Procedures

B.1 Experiment 1

Participant sampling and recruitment. Six surveyors and two recruiters were hired to conduct the games and were managed by a research assistant. Typically two days were spent in each market. We created two lists of randomly-ordered businesses for each market; one list for businesses located inside the market and one for businesses located outside the market. Manufacturers were placed at the top of each list. The two recruiters met early and were given the randomized lists of entrepreneurs; they then set up appointments with potential participants, following the order of the list. If a marketeer could not be located or refused to participate, the marketeer was replaced by the next female on the list. As soon as all women had been exhausted, the recruiters simply moved to the next marketeer on the list. In markets where the response rate was low, or we failed to find many businesses, or many businesses were closed, we also surveyed and played the games with non-manufacturers. All entrepreneurs on the outside list were screened extensively to ensure that they truly did not belong to the market.

Treatment assignment. In general, the first day at a market, the games were played with inside-inside pairs, wherein both players worked within the market. The corresponding three treatments arms for these pairs were control, Court and Chief. Generally, the second day at a market, the games were played with inside-outside pairs, wherein one player was a marketeer and the other an entrepreneur located outside of the market. The corresponding two treatment arms for these pairs were control and Court. Surveys were conducted first, and then the games. However, if there were delays in reaching a participant or if a player refused to play the games after having completed the survey, the order was switched. The order in which each treatment arm was conducted was randomized each market to limit selection bias due to logistical factors (e.g., time of day, eagerness of participants).

Players were never told who they were playing against, however, they knew whether the player was located inside or outside the market. Furthermore, after playing the first round as Investor or Trustee, they played the second round as Trustee (Investor respectively) against a new player, so that no two players played twice together. It was made clear to them that they would be randomly assigned to a new partner after the first round and they were reminded whether this player was inside or outside the market and if they (or the opposing player) could complain to the Chief or Court or neither.

As some of the markets were small, it is possible that participants had heard of the games we were conducting before we reached them. Thus, we cannot fully exclude the possibility that some players may have played with more information to begin with. However, this is more likely for the second day in a specific market, as the games conducted in a specific day followed back-to-back, thus there was not much time for entrepreneurs to talk in-between. We present results from day 2 only in the Appendix of the paper, as the chief treatment was never implemented in that day. Furthermore, the field team sought to minimize the attention drawn to themselves by sending the two recruiters into the depths of the markets to find participants, whilst the surveyors would generally just directly be taken to the participants.

Field procedures. All protocols were approved by the local IRB and the researchers trained and supervised the field team. We ran the games on groups of six entrepreneurs at time, with one surveyor assigned to one entrepreneur. For each market, a switch matrix was constructed to inform surveyors whether their assigned entrepreneur was to be Player A (Investor) or Player B (Trustee) first, and who the entrepreneur was to play in each round. For logistical reasons, surveyors whose respondents were located outside of the market always

started the games with the respondent being the Trustee, therefore all outsiders played the games in the same order, first as Trustees then as Investors. Once finishing a survey with a respondent, a surveyor sent a text to their corresponding surveyor to inform that they were about to start the instructions for the games in the following format: "surveyornum-initials-CensusID-AB/BA-start (e.g. 4-D-6230-AB-start)".

The instructions for the games were given to the respondent in written as well as oral form in the respondent's preferred language, and surveyors asked the respondent check questions to ensure that they fully understood the pay-out rules, who they were playing against, and the possibilities for complaint when relevant. Once both surveyors in a pair had received the "ready" text message from their partner surveyor for that round and had ensured that the participant understood the rules, they started with the game. Everyone had to correctly answer understanding checks about the rules of the games with the surveyors before proceeding.

The surveyor of the Investor sent the surveyor of the corresponding Trustee the number of tokens his player had chosen to send in the following format "SurveyorNum-Surname-Game-Player-TokensSent (e.g. 4-AD-R1-A3)". The surveyor of the Trustee then responded with the number of tokens the Trustee had decided to send back in the following format "SurveyorNum-Surname-Game-Player-TokensReturned (e.g. 2-PB-R1-B2)". The surveyors were instructed to always use neutral language to inform the respondents of the amount that had been sent (or sent back) to them.

Complaint process. In the Court and Chief treatments, the Investor, upon being told how many tokens the Trustee had sent back, was asked if they wanted to complain to the Court (chief) or not. The surveyor then messaged the corresponding surveyor whether or not the Investor intended to complain (format: A-Comp OR A-NoComp).

In the case of the chief treatment, the recruiter would ask the market's chief in real-time how s/he wanted to settle the complaint and sent their response in the same format to the surveyor of the Investor. The chief her/himself was given information (both oral and written) prior to the games commencing, which explained the game and made clear her/his role as an arbitrator during the games. Similar to the respondents, they were asked questions to check whether they had understood the games and their role in the games. If/ when a complaint reached the chief, the recruiter who was assigned to her/him would announce the complaint and ask for her/his decision in the following way: "There has been a complaint from a player. In this game, player A (the Investor) sent XX number of tokens to B (the Trustee), which means B received XX number of tokens. B sent back XX tokens. A has complained to you. Do you wish to redistribute the tokens? If so, how?"

In the case of the Court treatment, the recruitment officer already had a completed matrix of decisions from the Court (obtained from the Small Claims Court before the start of the games field work). The recruitment officer examined the matrix and sent the Court's decision to the surveyor of the Investor in the following format: "ANumTokensReceived-BNumTokensReceived. E.g. A6-B3". A similar message was sent to communicate the chief's decision.

Instructions. Excerpts from the instructions of Players A and B about the complaint process follow:

> *From Player A's instructions*
>
> If you think that the number of tokens sent back by Player B is not fair, you can ask us to call the chief (senior clerk at the Small Claims Court) on your behalf, to decide how many tokens each of you should get. The chief (senior clerk) will then decide how many tokens each of you should get. The chief's (senior clerk's)

ruling is based only on your choices and the choices of player B, and we will tell you their decision accordingly. The chief (senior clerk) does not know anything about you and the other player, only your choices. Player B will know that you can complain to the chief (senior clerk). In the case that you complain the final division of tokens will be determined by the ruling of the chief (Small Claims Court).

From Player B's instructions
Player A can ask us to consult the chief (senior legal clerk at the Small Claims Court) on his/her behalf, to decide how many tokens each of you should get. The chief's (senior clerk's) ruling is based only on your choices and the choices of player A, and we will tell you their decision accordingly. The chief (senior clerk) does not know anything about you and the other player, only your choices. In the case that player A complains, the final division of tokens will be determined by the ruling of the chief (Small Claims Court).

B.2 Experiment 2

Market sampling. Sampling proceeded in four steps. First, we constructed a preliminary set of 63 eligible markets by dropping

- markets where we ever piloted surveys and/or experiments (12 markets)
- markets where we did not have a chief bias measure from the previous chief survey (5 markets, none of which were pilot markets)

We dropped pilot markets to avoid contamination, and markets without a chief bias measure because our sampling strategy uses this as a balance variable.

Second, we paired markets in the preliminary set based on observables. The matching was stratified by the market's type (cooperative, council, or street) and size, measured by the number of businesses. There were six size groups: the largest two markets, the smallest two markets, and quartiles of the remaining markets. We separated out the largest and smallest markets because they are substantially different in size from the next closest ones. The two largest markets have 1,695 and 1,051 businesses, and the next largest has 841. The two smallest markets have 7 and 8 businesses, and the next smallest has 22. Within each market type-size group, we formed pairs to globally minimize within pair distance on the following characteristics: chief management quality index, chief bias index, number of manufacturing firms, number of female-owned manufacturing firms, number of tailors, number of firms in accommodation and food services (NAICS 2), and number of retailers (NAICS 2).[61] The first two variables are from the previous chief survey. The rest are from the census of businesses. If there was an odd number of markets in the stratification group, we left out the market that, when excluded, led to the minimum within pair distance amongst the remaining markets. This process yielded 29 pairs and 5 unpaired markets.

Third, we selected one eligible market from each pair according to the following procedure:

- If both markets in the pair were not in the first experiment, we randomly selected one.
- If one market in the pair was in the first experiment and the other market was not, we automatically selected the new one.
- If both markets in the pair were in the first experiment, we randomly selected one.

[61] We implemented the minimum distance matching using Blossom's algorithm.

We paired all of the markets to ensure we had a fully representative sample of unused markets for future follow-up work. However, for the current experiment, we excluded the smallest pair, the largest pair, and all markets in the first quartile of size. These exclusions were based on practical considerations: our participant recruitment strategy (discussed below) would be infeasible in the largest markets, and the smallest markets were unlikely to have sufficient businesses in our target participant industries. After these exclusions, we were left with 22 markets: 12 cooperative markets selected from pairs, 6 council markets selected from pairs, 3 unpaired cooperative markets, and 1 unpaired council market. Excluding the first quartile of size dropped all 4 street markets. These markets, however, are not appropriate for our experiment, given that they have a less cohesive governance structure.

Fourth, we listed the number of businesses in our target industries – manufacturing, hairdressing, and restaurants – in the 18 paired markets, as well as the unpaired council market. Our final experimental sample of 12 markets was selected based on the density of target industries. We have a total of five markets where we conducted both experiments, and seven new markets where we conducted only experiment 2.[62]

Participant sampling. For Player A, sampling was stratified by gender and sector (manufacturing vs. non-manufacturing). In each market, we recruited an equal number of men and women, with an overall target number based on the market's size from the listing. We set the split between manufacturers and non-manufacturers based on availability, aiming for the same share of manufacturers for men and women. For Player B, we sampled an equal number of men and women, but did not distinguish between industries.

A consent team visited the market to get consent from the target number of Player As in each gender-industry, as well as the target number of Player Bs (half women and half men). Particularly for manufacturers, it was sometimes the case that the target was equal to the number of available businesses. However, when there was a surplus of businesses, a consenter began at one end of the market and alternated sections for recruitment. For example, if the market was organized in aisles, as many are, they recruited from every other aisle. Each consenter was assigned a particular gender-industry to recruit so they could keep track of this. One to two days later, the data collection team visited the market to conduct the actual study activities.

Treatment assignment and A-B pairing. The main body of the paper describes the chief treatment (gender-blind vs. gender-aware). In addition, at the end of the trust game we elicited incentivized belief measures on how the participant's chief would arbitrate a dispute brought by a man or a woman. The gender of the hypothetical complainant was itself randomly assigned, as described here.

For Player A's, the chief-belief treatment pair was stratified by gender-industry. For Player B's, the belief treatment was stratified by gender, and pairing was stratified by Player A-gender-industry and Player B gender.

To achieve stratification, team supervisors ran a real time assignment protocol based on two instruments. For Player A, these were:

1. The target number for each gender-industry, with a chief-belief treatment pair preassigned to each slot (i.e. first participant, second participant, and so on). For example, if slot #1 for female manufacturers was assigned *Gender-Blind* and belief questions about men, then the first female manufacturer who participated would be assigned to *Gender-Blind* and belief questions about men.

2. Gender-industry specific lists of consenting businesses, in random order. Businesses

[62] Surveyors trained with real participants in 2 of the 7 remaining markets.

in a given gender-industry were to be visited in the randomized sequence, so that treatment (which was preset along visit order) would be orthogonal to the participant.

For Player B, these were:

1. The target number for each Player A-gender-industry and Player B gender pair (i.e. female manufacturer A's with female B's, female manufacturer A's with male B's, and so on), with a belief treatment pre-assigned to each slot.

2. Gender specific lists of consenting businesses, in random order. Businesses in a given gender-industry were to be visited in the randomized sequence.

In a given round of data collection, the supervisors told each surveyor which specific business to visit. If that business was unavailable, the surveyor asked the supervisors for a replacement business until they had a participant finalized. Once the participant was finalized, the supervisors texted the surveyor the assigned treatment.

In each round of data collection, the team tried to recruit Player A's from each gender-industry in proportion to the target, so that time of interview would be orthogonal to the participant. If a participant was unavailable at the time of initial visit, the data collection team made one additional attempt to include them, either by making an appointment or visiting again later.

Field procedures. All protocols were approved by the local IRB and the researchers trained and supervised the field team. Within each market, we first conducted a listing of potential participants within our target industries. Next, enumerators returned to the markets and gathered consents from a targer number of businesses listed in phase 1. The third phase was the entrepreneurs' survey and the chief's survey. Enumerator teams visited the markets after the consent had been collected and approached marketeers that had accepted to take part of the survey. Surveys were carried out following the strict sampling and randomization protocols described above. While the main team carried out these surveys, a designated enumerator surveyed the market chief.

The pre-games survey for marketeers included socio-demographic information, business activity and collaboration, harassment and institutions related questions. After the survey, the trust game followed. Additionally, at the end of the experiment, we elicited incentivized beliefs about the chief's choices when s/he has to arbitrate complaints coming from men or women within the context of the game. The assignment of complaints brought by men or women was randomized between subjects, stratifying by the main strata (market-gender-industry) and treatment assignment (as described above).

The chiefs' survey was a shortened version of the one conducted by the research team in 2021 (described in Appendix D). In addition, after explaining the trust game to the chiefs, we asked them how they would behave in hypothetical game complaints coming for both female and male players.

Instructions. Excerpts from the instructions of Players A and B about the complaint process follow:

> *From Player A's instructions*
> If you think that the number of tokens sent back by Player B is not fair, you can ask us to go to the market chair, Mr/Ms. [Name], on your behalf. The chair will then make a ruling about how many tokens each of you will get. The chair can only reallocate the earnings from the business opportunity, if any, and cannot reallocate the tokens you keep. The chair can decide that you should get more,

less or the same amount of earnings. The decision made by the chair is final. If you complain, your identity will be completely anonymous. Your complaint will be submitted via a form. This protects your privacy.

There are two types of forms that you may be using. [Surveyor: take out blue form and red form for the participant's gender]

For some of the participants in this activity, the chair will not know anything about you or Player B, only your choices and Player B's choices. Here is the complaint form that the chair will see. [Surveyor: show BLUE form]. This form says the number of tokens you send, the earnings and the number of tokens Player B returns.

For some other participants in this activity, the form will contain more information about the participant complaining. Here is the complaint form that the chair will see in this case. [Surveyor: show RED form].This form says the number of tokens you send, the earnings and the number of tokens Player B returns. In addition, the form shows that the complaint comes from a business [man/woman].

In any case, Player B knows you can complain to the chair, but does not see the form used for the complaint.

Whether you are going to use the blue form or the red form is going to be determined randomly. You will press a button on the screen to randomly select which form you will use.

From Player B's instructions

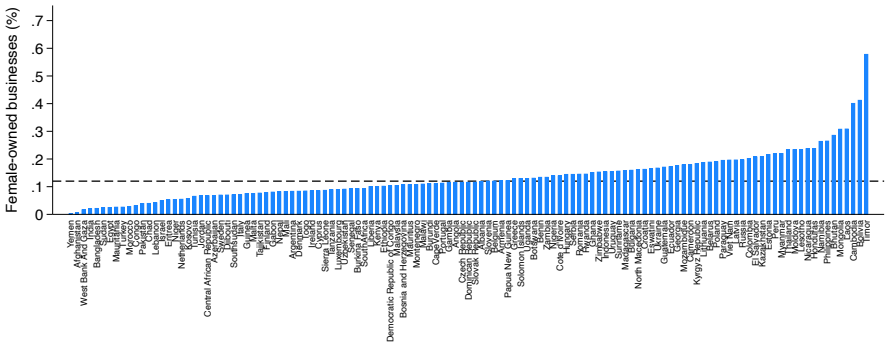
If Player A thinks the number of tokens you send back to him or her is unfair, he or she can ask us to complain to the chair, Mr./Ms. [insert name here], on his or her behalf. The chair will then make a ruling about how many tokens each of you will get. The chair can only reallocate the earnings from the business opportunity, if any, not the tokens Player A keeps. The chair can decide that Player A should get more, less or the same amount of earnings than you sent him/her. The decision made by the chair is final.

If Player A complains, your identity will be completely anonymous. Player A will complain by filling in a form, so that the chair doesn't find out his or her identity.

C Additional Figures and Tables

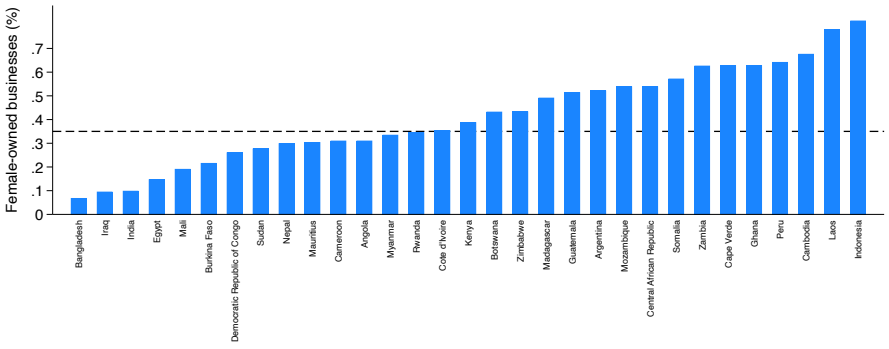
Figure C.1: Female-owned Firms across Countries

(a). Regular WBES Survey



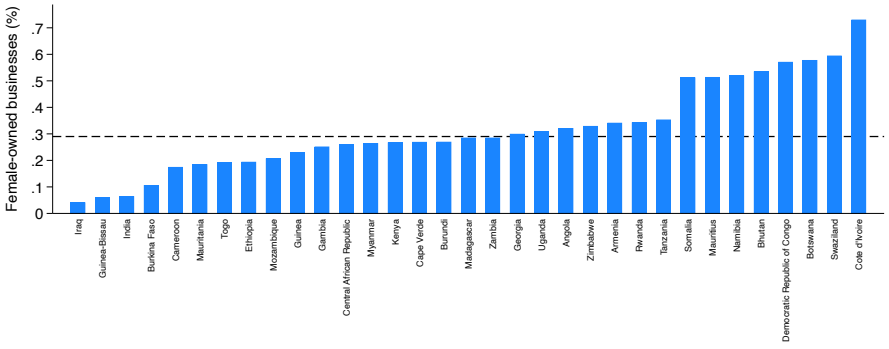
Source: Regular Survey. Number of countries: 180.
Horizontal line at the median
For each country, female ownership is computed as the average % across years in the data.
On average, each country has data for 2 different years.

(b). Informal Business Survey



Source: Informal Survey. Number of countries: 33.
Horizontal line at the median
For each country, female ownership is computed as the average % across years in the data.
On average, each country has data for 1 different years.

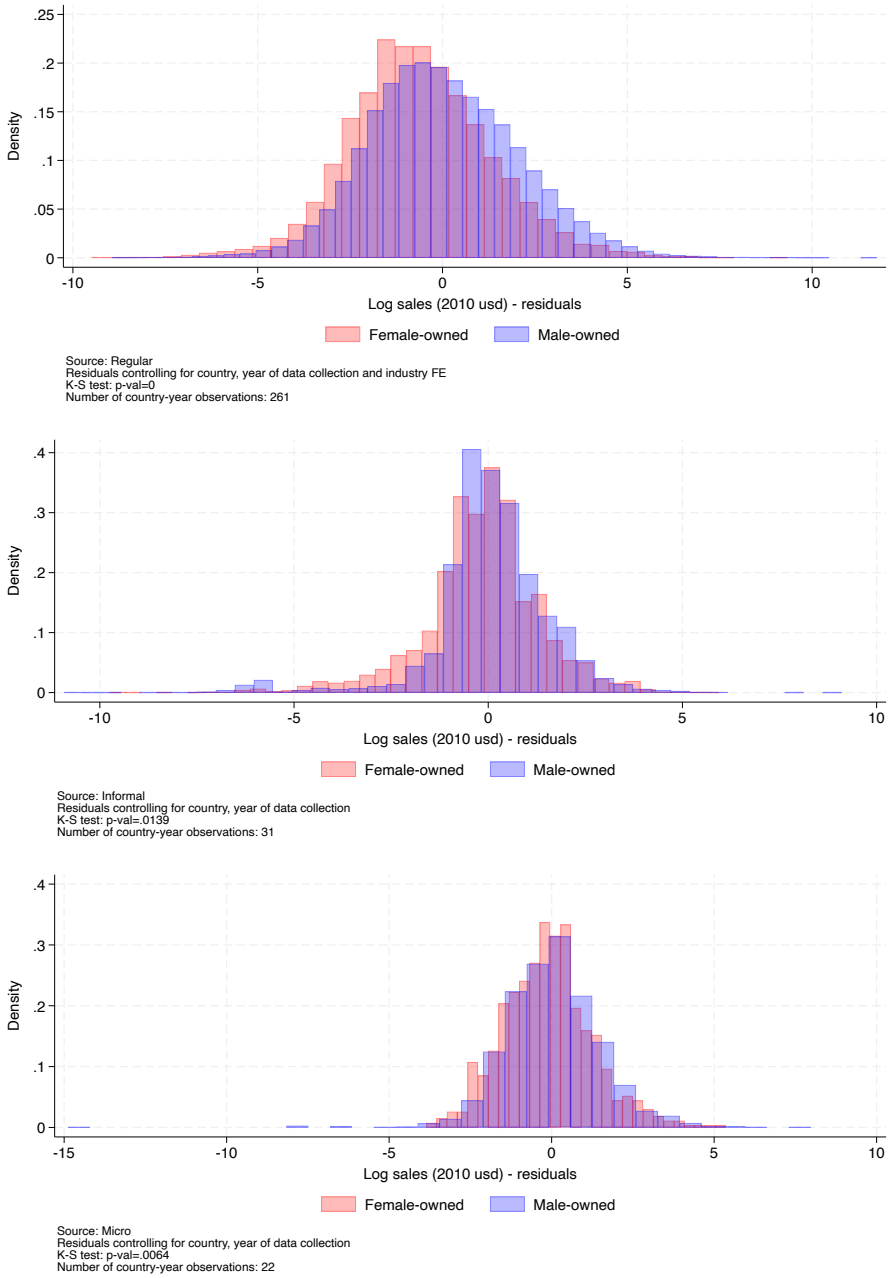
(c). Micro Entrepreneur Survey



Source: Micro Survey. Number of countries: 37.
Horizontal line at the median
For each country, female ownership is computed as the average % across years in the data.
On average, each country has data for 1 different years.

This Figure shows the share of female-led businesses across countries. Female-led firms are defined as firms with a majority of female owners. The top panel shows share of female-led businesses for the regular WBES survey, the middle one for the informal business survey and the bottom one for the micro entrepreneur survey.

Figure C.2: Business Earnings by Owner's Gender



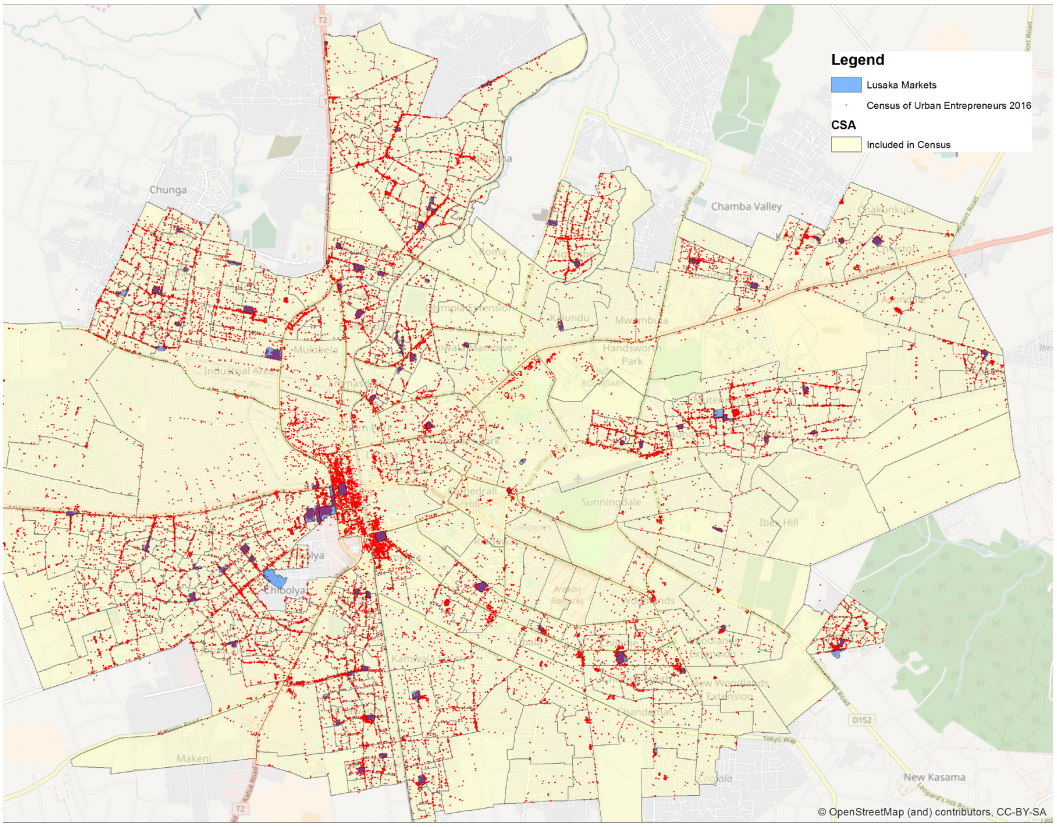
This Figure shows the gender-specific distributions of logsales in 2010 USD after controlling for country, year of collection and, for the regular WBES, industry fixed effect. The top panel shows the distribution for the regular WBES survey, the middle one for the informal business survey and the bottom one for the micro entrepreneur survey.Female-led businesses are defined as firms with a strict majority of female owners.

Table C.1: Descriptive Statistics for Entire Census

	Mean	Observations
Number of Employees	2.27	40,517
Industry (Naics2)		
Retailing industry	0.51	48,163
Manufacturing industry	0.08	48,163
Accomodation/food services industry	0.14	48,163
Other Services	0.13	48,163
All Other Industries	0.13	48,163
Number of Employees by Industry		
Number Emp. Retail ind.	1.12	20,472
Number Emp. Manufacturing industry	3.86	3,625
Number Emp. accom/food services ind	2.34	5,854
Number Emp. other services ind	1.20	5,541
Number Emp. other ind	7.05	4,873
Business is part of a chain	0.04	48,670
Business has standalone structure (bricks)	0.11	48,670
Business in building with multiple businesses	0.71	48,670
Business has standalone structure (cardboard)	0.03	48,670
Business is in residential house	0.15	48,670

This table presents industry composition for the 2016 Lusaka Census of Urban Entrepreneurs. Observations may be dropped because of missing values.

Figure C.3: Census Coverage



This figure shows the spacial distribution of businesses in the Lusaka Census of Urban Entrepreneurs. It covers 48,163 establishments in Lusaka. The blue squares show where markets exist.

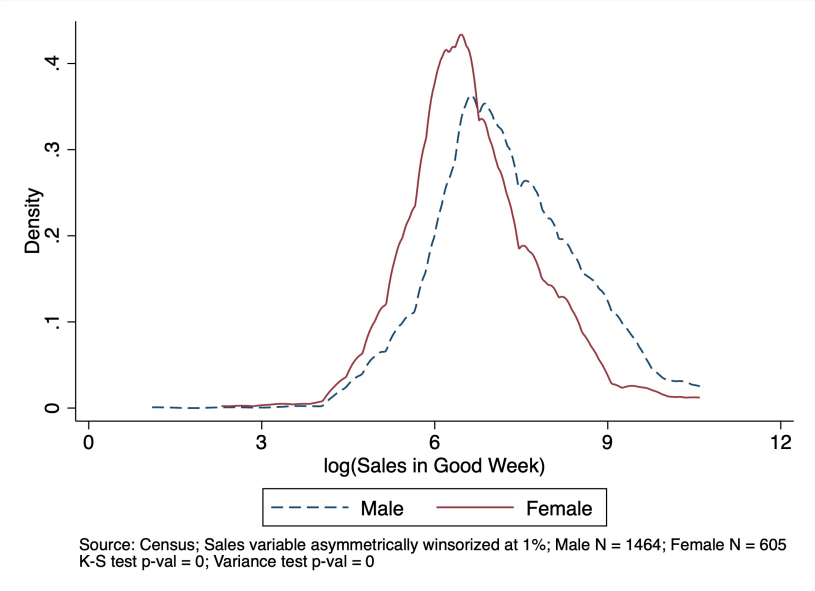
Table C.2: Business Features: Respondents vs Non-Respondents to the Census of Small-Scale Manufacturers

	All genders				Female			Male		
	(1) All Businesses Mean (SD)	(2) No interview Mean (SD)	(3) Interview completed Mean (SD)	(4) Diff(3)-(2)	(5) No interview Mean (SD)	(6) Interview completed Mean (SD)	(7) Diff(6)-(5)	(8) No interview Mean (SD)	(9) Interview completed Mean (SD)	(10) Diff(9)-(8)
Number of Employees	2.27	2.15	1.00	-1.15***	1.44	0.67	-0.77***	2.47	1.14	-1.33***
	(11.25)	(3.55)	(2.31)	(0.10)	(2.70)	(1.76)	(0.15)	(3.84)	(2.49)	(0.13)
Retailing industry	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.50)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Manufacturing industry	0.08	0.92	0.99	0.07***	0.97	1.00	0.03***	0.91	0.99	0.08***
	(0.27)	(0.27)	(0.10)	(0.01)	(0.17)	(0.04)	(0.01)	(0.29)	(0.11)	(0.01)
Accomodation/food services industry	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.35)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Other services	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.34)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
All other industries	0.13	0.08	0.01	-0.07***	0.03	0.00	-0.03***	0.09	0.01	-0.08***
	(0.34)	(0.27)	(0.10)	(0.01)	(0.17)	(0.04)	(0.01)	(0.29)	(0.11)	(0.01)
Number Emp. Retail ind	1.12									
	(4.60)									
Number Emp. Manufacturing ind	3.86	1.90	0.93	-0.97***	1.35	0.64	-0.71***	2.17	1.05	-1.12***
	(18.38)	(3.31)	(2.13)	(0.09)	(2.49)	(1.58)	(0.13)	(3.61)	(2.30)	(0.12)
Number Emp. accom/food services ind	2.34									
	(6.42)									
Number Emp. other services ind	1.20									
	(2.94)									
Number Emp. other ind	7.05	6.20	8.52	2.33*	8.50	20.00	11.50	6.51	7.95	1.44
	(24.91)	(4.74)	(5.85)	(1.23)	(7.55)			(4.52)	(5.37)	(1.21)
Business is part of a chain	0.04	0.07	0.03	-0.04***	0.08	0.03	-0.05***	0.06	0.03	-0.03***
	(0.20)	(0.25)	(0.17)	(0.01)	(0.27)	(0.17)	(0.01)	(0.24)	(0.16)	(0.01)
Business has standalone structure (bricks)	0.11	0.11	0.08	-0.03***	0.06	0.07	0.01	0.12	0.08	-0.04***
	(0.32)	(0.31)	(0.27)	(0.01)	(0.25)	(0.26)	(0.02)	(0.33)	(0.28)	(0.01)
Business in building with multiple businesses	0.71	0.79	0.84	0.05***	0.86	0.84	-0.02	0.77	0.85	0.08***
	(0.45)	(0.41)	(0.36)	(0.01)	(0.34)	(0.37)	(0.02)	(0.42)	(0.36)	(0.02)
Business has standalone structure (cardboard)	0.03	0.02	0.02	-0.00	0.01	0.01	0.00	0.02	0.02	-0.00
	(0.17)	(0.15)	(0.14)	(0.00)	(0.11)	(0.12)	(0.01)	(0.15)	(0.15)	(0.01)
Business is in residential house	0.15	0.08	0.05	-0.02***	0.06	0.07	0.01	0.08	0.04	-0.04***
	(0.35)	(0.27)	(0.22)	(0.01)	(0.24)	(0.26)	(0.02)	(0.27)	(0.21)	(0.01)
Observations	48669	1587	2215	3802	354	637	991	1109	1578	2687

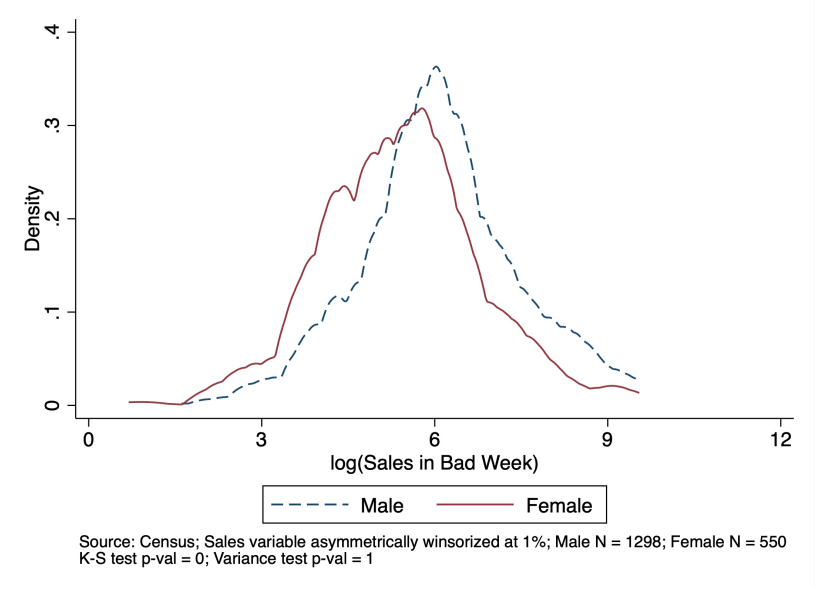
This figure shows the Summary statistics of all Businesses and of eligible Businesses by gender.

Figure C.4: Sales in Good and Bad Weeks by Gender

(a). Logged Sales in Good Week



(b). Logged Sales in Bad Week



These figures shows the kernel density of logged sales in good and bad weeks by gender. Both sales variables are winsorised at the 99% level to control for outliers before taking the log. The dashed blue line shows the distribution for men and the solid red line for women. The p-value of the Kolmogorov-Smirnov equality of distributions test is 0.00. The p-value of the variance test ratio is 0.001 for sales in good weeks and > 0.50 for sales in bad weeks. The sample comes from our Census of Small-Scale Manufacturers in Lusaka (N=2,216).

Table C.3: Manufacturers' Education, Firm Size and Business Practices by Gender

	Census Data		
	Male N=1578	Fem N=637	Diff
Panel A: Firm Size and Growth			
No. full-time emp.	2.05	1.68	-0.38***
	(0.06)	(0.07)	(0.10)
No. part-time emp.	0.99	0.29	-0.69***
	(0.08)	(0.04)	(0.13)
No. apprentices/unpaid	0.68	0.35	-0.33
	(0.13)	(0.04)	(0.21)
No. family members	0.49	0.30	-0.19***
	(0.03)	(0.03)	(0.04)
No. full-time emp at start	2.06	1.77	-0.30***
	(0.06)	(0.07)	(0.11)
Growth rate in full-time emp.	0.19	0.06	-0.13**
	(0.03)	(0.03)	(0.05)
Positive full-time emp. growth	0.14	0.10	-0.04**
	(0.01)	(0.01)	(0.02)
Panel B: Education			
Training (mgmt/Entrep)	0.21	0.28	0.06***
	(0.01)	(0.02)	(0.02)
University	0.04	0.03	-0.01
	(0.00)	(0.01)	(0.01)
Diploma	0.16	0.19	0.03*
	(0.01)	(0.02)	(0.02)
Completed Secondary	0.23	0.20	-0.03*
	(0.01)	(0.02)	(0.02)
No Formal Education	0.02	0.01	-0.01*
	(0.00)	(0.00)	(0.01)
Panel C: Business Practices			
Forecasting Future Budget	0.34	0.32	-0.02
	(0.01)	(0.02)	(0.02)
Keeping Business Records	0.48	0.47	-0.01
	(0.01)	(0.02)	(0.02)
Using Records to Monitor Liquidity	0.87	0.90	0.03
	(0.01)	(0.02)	(0.02)

Panel A compares firm size and full-time employment growth by gender. The number of full-time employees includes the owner. Panel B compares genders by educational background, and Panel C compares business practices. Data are from the Census of Small-Scale Manufacturers (N=2216). Stars denote statistical significance of the two-sided t-test by gender. *** denotes $p<0.01$, ** denotes $p<0.05$, and * denotes $p<0.1$.

Table C.4: Gender Sales Gap Among Manufacturers

	Regression Controls:					
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Outcome Variable	None	+Education	+ Industry	+ Work/marital	Male Mean of Y	N
Mean Sales	–944.72***	–940.17***	–278.02	–166.33	2125.21	2073
Standard Error	(151.848)	(152.822)	(172.949)	(196.013)		
R^2	.014	.071	.141	.142		
Sales Good Week	–1500.2***	–1491.8	–381.91	–243.53	3273.36	2048
	(234.164)	(234.591)	(265.321)	(302.912)		
	.014	.081	.141	.142		
Sales Bad Week	–429.03***	–428.80	–210.49	–149.62	1010.86	2048
	(83.2490)	(85.2699)	(92.8399)	(105.558)		
	.009	.039	.133	.134		
ln(Mean Sales)	-.586***	-.591***	-.199***	-.089	6.82	2066
	(.0579)	(.057)	(.057)	(.0619)		
	.0439	.1040	.25	.2590		
ln(Sales Good Week)	-.586***	-.593***	-.179***	-.083	7.26	2048
	(.057)	(.057)	(.0560)	(.0610)		
	.0450	.1120	.2560	.2630		
ln(Sales Bad Week)	-.658***	-.663	-.321	-.219	6.07	1830
	(.0700)	(.0710)	(.0710)	(.0759)		
	.0450	.0879	.2479	.2579		
Employment Growth	-.128***	-.130***	-.037	-.028	.18	2075
	(.0390)	(.0410)	(.0450)	(.0460)		
	.003	.0170	.0240	.0240		
Employment Level	-.375***	-.377***	.0399	.0460	2.05	2183
	(.0909)	(.0879)	(.0970)	(.1000)		
	.0060	.1159	.1589	.1609		

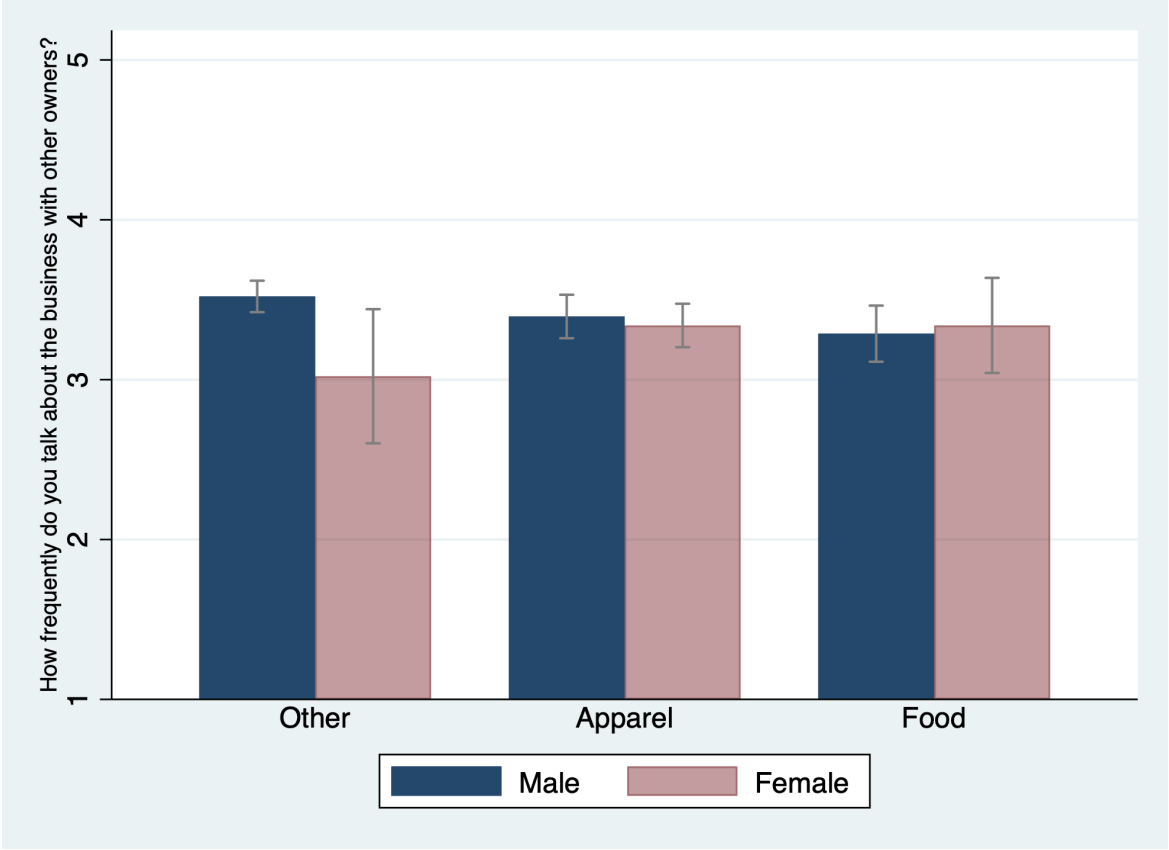
This table shows explanatory variables of employment and sales for entrepreneurs of all industries in the 2016 Census of Small-Scale Manufacturers. The dependent variables are listed in Column 1, and each cell reports the coefficient on a dummy for being a female owner on the variable in Column (1). After the name of each variable and the coefficient on the female dummy, two rows report the robust standard error and the adjusted r-squared. For sales in a good or bad week, if the person could not provide an exact number, we also asked for an upper and lower bound. We then imputed the average of the bounds to the sales variables. The mean sales variable is constructed as the average of sales in a good or bad week. All the sales variables are winsorised at the 99% level to control for outliers. Regressions in Column (2) report the coefficient of a regression of the row variable on the female dummy only. Regressions in Column (3) control for education dummies, which are indicator variables indicating different levels of educational achievement: the omitted category is "illiterate or literate, no formal education", the other categories are "Primary Incomplete", "Primary", "Secondary Incomplete", "Secondary", "Diploma", "University". Regressions in Column (4), in addition to education indicators, also control for two indicator variables for being in food manufacturing or apparel manufacturing (omitted category is "other industries"). Regressions in Column (5), in addition to education and industry indicators, also control for variables regarding the time worked (daily hours and days per week) and whether the owner is married or not. Column (6) reports the mean of the dependent variable in the sample of male manufacturers. Column (7) reports the number of observations from the model run in Column (5): this is a lower bound given that the hours and marital status controls are missing for some respondents. Robust Standard errors in parentheses.

Table C.5: Correlations between Trust and Cooperation

	Trust ST	Trust NB	Trust GSS	Joint Buy	Lent	Advice	Share Order	Coop Average
Trust in Strangers	1							
Trust in Neighbors	0.313***	1						
Trust GSS	0.129***	0.119***	1					
Joint Buy	0.0516*	0.0577**	0.00748	1				
Lent	0.0773***	0.123***	0.0151	0.259***	1			
Advice	0.0596**	0.0978***	-0.0123	0.258***	0.356***	1		
Share Order	0.0618**	0.0819***	-0.0394	0.349***	0.328***	0.347***	1	
Coop Average	0.0901***	0.129***	-0.0104	0.665***	0.708***	0.683***	0.734***	1
Complexity	0.0214	-0.00476	0.0435*	0.103***	0.0685**	0.0209	-0.0330	0.0569**
N	2216							

This table shows correlations between the trust variables and cooperation variables. The variables "Trust in Strangers" and "Trust in Neighbors" are measured on a scale from 1-4, and have been converted into dummy variables by combining low scores (1 and 2) and high scores (3 and 4). Low scores were given a value of 0, and high scores a value of 1. The variable "Trust GSS" is a dummy measuring whether most people can be trusted or not: a value of 1 indicates that "most people can be trusted", and a value of 0 indicates that "you cannot be too careful in dealing with people". The variables "Joint Buy", "Lent", "Advice" and "Share Order" are dummies that indicate whether a person ever engaged in the relevant activity. The variable "Coop Average" is an index of cooperative behavior, calculated as a simple average of the four dummies "Joint Buy", "Lent", "Advice" and "Share Order". The sample comes from our Census of Small-Scale Manufacturers in Lusaka (N=2,216). *** denotes p<0.01, ** denotes p<0.05, and * denotes p<0.1.

Figure C.5: Talking about the Business with Other Entrepreneurs



This figure shows the proportion of men and women talking several times a week with other entrepreneurs about the business. We asked "Consider other business owners in your sector in this neighborhood. How many times do you talk about topics related to the business?". Answers were given on a 5-Likert scale: Never, Once a Month, Between 1 and 4 times a month, More than once a week, Every day. The sample comes from our Census of Small-Scale Manufacturers in Lusaka (N=2,216).

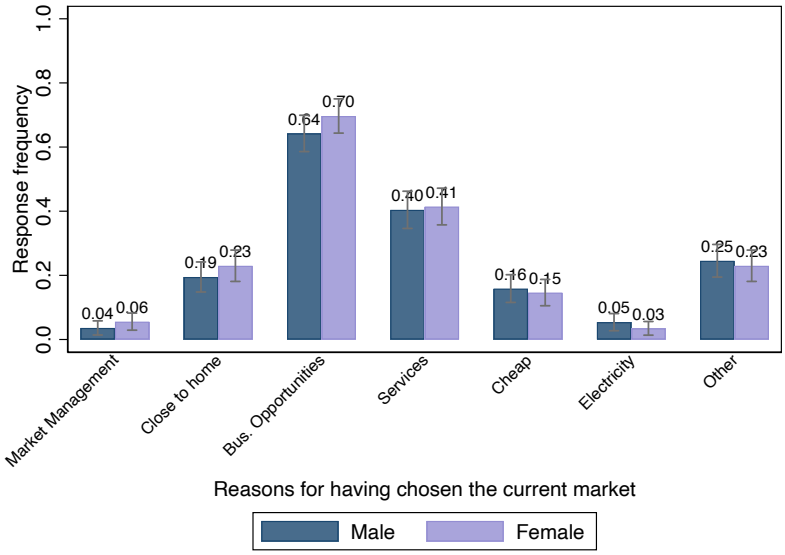
Table C.6: Correlations between Sales and Firm Size with Trust and Cooperative Behavior

	Logged sales			Employment	
	Good Week	Bad Week	Yesterday	Level	Growth
Trust NB	0.01	0.0	-0.01	0	0.05**
Trust ST	0.04**	0.04	0.03	0.01	0.01
Trust GSS	0.04*	0.04*	0.01	0.05**	0.03
Coop Average	0.09***	0.02	0.05**	-0.04*	0.02
Lent	0.03	-0.03	0.02	-0.04*	0.0
Advice	0.05***	0.01	0.04*	-0.02	0.02
Share Order	0.06***	0.0	0.03	-0.05**	0.01
Joint Buy	0.1***	0.07***	0.06**	0.01	0.04*

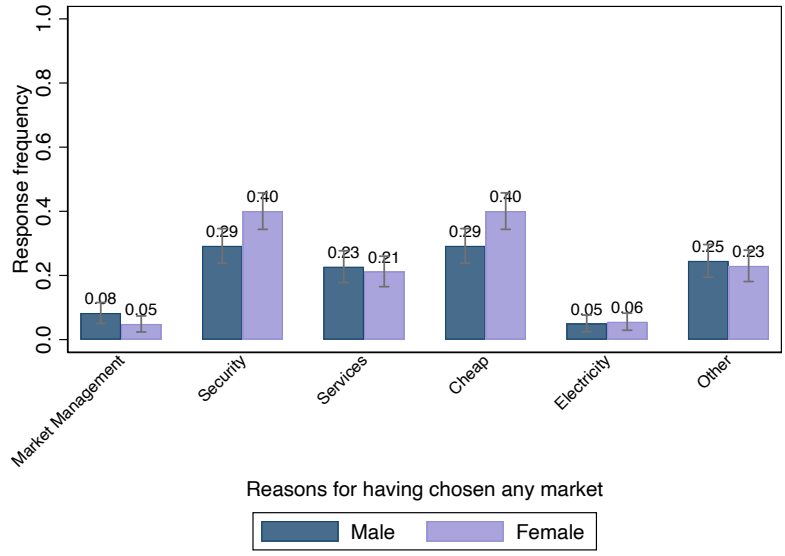
This table shows correlations between sales or employment and trust or cooperative behavior. The dependent variables are the log of the answers given when asked the sales in the previous working day, the sales in a good week and the sales in a bad week. If the person could not provide an exact number, we also asked for an upper and lower bound. We then imputed the average of the bounds to the sales variables. All the sales variables are winsorised at the 99% level to control for outliers. The variables "Trust in Strangers" and "Trust in Neighbors" are measured on a scale from 1-4, and have been converted into dummy variables by combining low scores (1 and 2) and high scores (3 and 4). Low scores were given a value of 0, and high scores a value of 1. The variable "Trust GSS" is a dummy measuring whether most people can be trusted or not: a value of 1 indicates that "most people can be trusted", and a value of 0 indicates that "you cannot be too careful in dealing with people". The variables "Joint Buy", "Lent", "Advice" and "Share Order" are dummies that indicate whether a person ever engaged in the relevant activity. The variable "Coop Average" is an index of cooperative behavior, calculated as a simple average of the four dummies "Joint Buy", "Lent", "Advice" and "Share Order". The sample comes from our Census of Small-Scale Manufacturers in Lusaka (N=2,216). *** denotes p<0.01, ** denotes p<0.05, and * denotes p<0.1.

Figure C.6: Main Reasons for Market Location

(a). Reasons for locating inside current market



(b). Reasons for locating inside current market instead of just outside



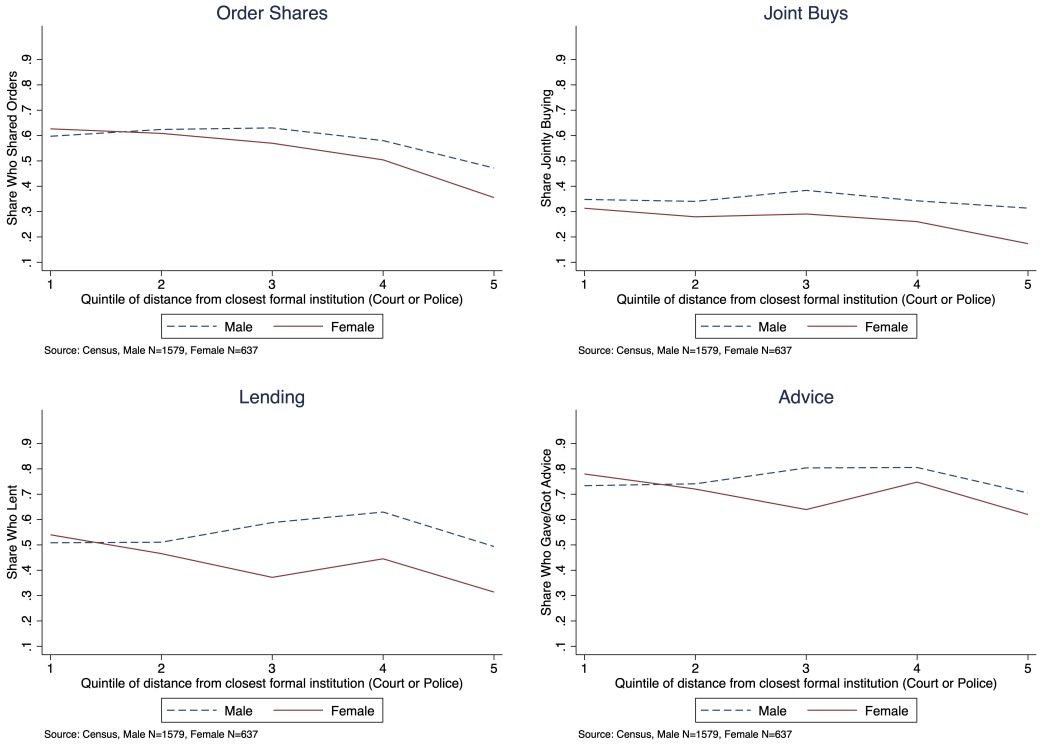
This figure shows the main reasons reported by entrepreneurs for choosing to be located inside their current market, by gender. The sample comes from Experiment 2 (N=594), which includes businesses located inside markets only. Panel (a) shows the reported reasons for locating in the specific market they are stationed. Panel (b) shows the reason for locating inside the market, instead of in the same location but just outside the market boundaries.

Table C.7: Correlates of Market Location, by Gender

	(1)	(2)	(3)	(4)	(5)	(6)
		Women			Men	
Variable	Outside Mkt	Inside Mkt	Delta In - Out	Outside Mkt	Inside Mkt	Delta In - Out
Age	37.265	40.352	3.087***	37.775	40.117	2.342***
	(10.331)	(8.551)	(0.764)	(11.144)	(11.049)	(0.575)
Business Age	7.212	11.488	4.276***	8.893	13.503	4.610***
	(7.217)	(8.184)	(0.651)	(9.049)	(9.413)	(0.484)
Has clear sign	0.700	0.534	-0.166***	0.709	0.529	-0.180***
	(0.459)	(0.499)	(0.039)	(0.455)	(0.499)	(0.025)
Has electricity	0.980	0.974	-0.007	0.960	0.884	-0.076***
	(0.139)	(0.160)	(0.012)	(0.195)	(0.320)	(0.014)
Days worked	5.770	5.759	-0.011	6.000	5.980	-0.020
	(0.926)	(0.806)	(0.069)	(1.000)	(0.802)	(0.046)
Not registered	0.430	0.728	0.299***	0.426	0.753	0.327***
	(0.496)	(0.445)	(0.038)	(0.495)	(0.432)	(0.024)
Belongs to Association	0.046	0.040	-0.006	0.030	0.023	-0.007
	(0.211)	(0.196)	(0.017)	(0.170)	(0.148)	(0.008)
Keeps records	0.626	0.369	-0.257***	0.634	0.384	-0.250***
	(0.485)	(0.483)	(0.039)	(0.482)	(0.487)	(0.025)
Keeps budget	0.363	0.299	-0.063	0.372	0.319	-0.053**
	(0.482)	(0.459)	(0.039)	(0.484)	(0.466)	(0.025)
Married	0.549	0.524	-0.025	0.737	0.806	0.069***
	(0.499)	(0.500)	(0.040)	(0.441)	(0.396)	(0.021)
Spouse gave capital	0.560	0.469	-0.091*	0.173	0.150	-0.022
	(0.498)	(0.500)	(0.048)	(0.379)	(0.358)	(0.021)
Recent immigrant	0.035	0.024	-0.011	0.076	0.033	-0.043***
	(0.184)	(0.152)	(0.013)	(0.265)	(0.178)	(0.011)
Born in Lusaka	0.506	0.403	-0.103**	0.364	0.379	0.015
	(0.501)	(0.491)	(0.040)	(0.481)	(0.485)	(0.025)
Hours worked	9.941	9.557	-0.384***	10.613	10.334	-0.280***
	(1.911)	(1.424)	(0.132)	(1.814)	(1.535)	(0.085)
Educational level	4.767	4.064	-0.703***	4.691	3.872	-0.819***
	(1.262)	(1.233)	(0.101)	(1.436)	(1.337)	(0.071)
Apparel	0.553	0.884	0.332***	0.181	0.440	0.259***
	(0.498)	(0.320)	(0.032)	(0.385)	(0.497)	(0.023)
Food	0.327	0.089	-0.237***	0.296	0.110	-0.186***
	(0.470)	(0.286)	(0.030)	(0.457)	(0.313)	(0.019)
Wood	0.012	0.011	-0.001	0.128	0.285	0.157***
	(0.108)	(0.102)	(0.008)	(0.334)	(0.452)	(0.021)
Full time emp	1.272	0.270	-1.003***	1.893	0.486	-1.407***
	(2.405)	(0.847)	(0.134)	(3.208)	(1.311)	(0.117)
Full time at start	1.218	0.475	-0.743***	1.665	0.663	-1.002***
	(2.243)	(1.352)	(0.147)	(3.255)	(1.730)	(0.129)
Trust (GSS)	1.043	1.037	-0.006	1.103	1.105	0.002
	(0.204)	(0.189)	(0.016)	(0.304)	(0.307)	(0.016)
Trust in neighbors	0.425	0.439	0.015	0.536	0.549	0.014
	(0.495)	(0.497)	(0.040)	(0.499)	(0.498)	(0.026)
Trust in strangers	0.207	0.196	-0.011	0.288	0.284	-0.004
	(0.406)	(0.397)	(0.032)	(0.453)	(0.451)	(0.023)
Observations	257	380	637	635	944	1,579

This tables shows the main correlates of market location, by gender. Data comes from the Census of Urban Entrepreneurs (N=2216).

Figure C.7: Cooperative Activities by Distance to Court or Police



This figure shows the share of entrepreneurs who said they cooperated with a similar business in the given activity by gender and distance from the closest formal institution between the Small Claims Court or the Police. The dashed blue line shows raw average cooperation for men and the solid red line for women. Numbers on the x-axis report the quintile of distance from the closest formal institution. The sample comes from our Census of Small-Scale Manufacturers in Lusaka (N=2,216).

Table C.8: Preferences for Different Institutions by Gender

	Experiment 1			Experiment 2		
	Male N = 347	Female N = 128	Diff F-M	Male N = 290	Female N = 304	Diff F-M
Panel A: Choice of Institutions						
Market Chief	0.73	0.68	-0.05			
	(0.44)	(0.47)	(0.05)			
Small Claims Court	0.04	0.11	0.07***			
	(0.20)	(0.31)	(0.02)			
Police	0.17	0.17	-0.00			
	(0.38)	(0.38)	(0.04)			
If know of court						
Market chief	0.64	0.32	-0.32***			
	(0.48)	(0.48)	(0.11)			
Court	0.12	0.44	0.32***			
	(0.33)	(0.51)	(0.09)			
Police	0.21	0.20	-0.01			
	(0.41)	(0.41)	(0.09)			
Panel B: Opinion on Institutions						
Market Chief Fair	0.55	0.50	-0.05			
	(0.50)	(0.50)	(0.05)			
Small Claims Court Fair	0.51	0.64	0.13			
	(0.50)	(0.49)	(0.12)			
Police Fair	0.21	0.24	0.03			
	(0.41)	(0.43)	(0.04)			
Market Chief Slow	0.18	0.24	0.06			
	(0.39)	(0.43)	(0.04)			
Small Claims Court Slow	0.43	0.42	-0.01			
	(0.50)	(0.50)	(0.11)			
Police Slow	0.29	0.41	0.12**			
	(0.45)	(0.49)	(0.05)			
Panel C: Knowledge of Institutions						
Heard of SCC	0.22	0.20	-0.02			
	(0.41)	(0.40)	(0.04)			
No knowledge of other institutions				0.71	0.76	0.05
				(0.45)	(0.43)	(0.04)
Mention court as institution				0.55	0.55	0.00
				(0.50)	(0.50)	(0.08)
Not know enough about courts				0.29	0.37	0.09**
				(0.45)	(0.48)	(0.04)
Trust somewhat or a lot in courts				0.56	0.57	0.01
				(0.50)	(0.50)	(0.05)
Believes equality before the law				0.50	0.49	-0.01
				(0.50)	(0.50)	(0.04)

Panel A shows the share of men (Column 1) and women (Column 2) who would choose a certain institution to solve a business dispute. The survey question was the following: 'Think about an average marketeer in this market. Assume that another person in the market buys items on credit from him and does no pay back what he owes. Which person or group would the person owed money most likely go to?'. The last three rows of panel A show the answers to the same question but limiting the sample to people who have heard of the Small Claims Court (N=101). Panel B shows respondents' opinions of the Market Chief, Police and Small Claims Court fairness and efficiency. For fairness, we gave people the same scenario described above and asked 'If the person owed money goes to the [market chief/Police/SCC], how often do you think the process would be fair?'. We coded the answer as 1 (0) is the person says that the process will be always or usually fair (sometimes, rarely or never fair). For efficiency, we asked how often they think the process would be slow, and coded in the same way. Data are from the Experiment 1 pre-games survey (N=477). Panel C shows men (Column 4) and women's (Column 5) knowledge of formal institutions. Data come from Experiment 2 pre-games survey (N=594), except for the variable Heard of SCC. "Mention court as institution" is a dummy equal to one if the person mentions courts as institutions that they know of for disputes, and it is conditional on the respondent mentioning at least one additional institution besides the market chief and police (N=84 for men and N=73 for women). "Not know enough about courts" is a dummy equal to one if the respondent says that they don't know enough about courts in Zambia to say whether they trust them or not.

Table C.9: Disputes, Harassment and Use of Legal Institutions by Gender

	Experiment 1			Experiment 2		
	Male N = 347	Female N = 128	Diff F-M	Male N = 290	Female N = 304	Diff F-M
Panel A: Use of Legal Institutions						
Ever used a court				0.21	0.13	-0.08**
				(0.41)	(0.34)	(0.03)
- For business dispute				0.07	0.01	-0.06***
				(0.25)	(0.10)	(0.02)
- For dispute with family member				0.10	0.10	0.00
				(0.30)	(0.30)	(0.02)
- For non-business dispute				0.15	0.12	-0.02
				(0.36)	(0.33)	(0.03)
- For dispute with non-family member				0.04	0.02	-0.02
				(0.20)	(0.15)	(0.01)
Know someone else who used court				0.51	0.46	-0.05
				(0.50)	(0.50)	(0.04)
- Someone else with family member				0.32	0.29	-0.03
				(0.47)	(0.45)	(0.04)
- Someone else with non-family member				0.10	0.13	0.03
				(0.30)	(0.34)	(0.03)
- Someone else for business dispute				0.11	0.07	-0.04
				(0.31)	(0.25)	(0.02)
- Someone else for non-business				0.40	0.39	-0.01
				(0.49)	(0.49)	(0.04)
Panel B: Work Disputes						
Any Dispute	0.67	0.59	-0.07	0.53	0.40	-0.13***
	(0.47)	(0.49)	(0.05)	(0.50)	(0.49)	(0.04)
Disp. Workplace	0.19	0.12	-0.08*	0.23	0.15	-0.07**
	(0.40)	(0.32)	(0.04)	(0.42)	(0.36)	(0.03)
Disp. Bus. Agree	0.32	0.26	-0.06	0.21	0.10	-0.11***
	(0.47)	(0.44)	(0.05)	(0.44)	(0.30)	(0.03)
Disp. Over Debt	0.52	0.40	-0.12**	0.33	0.27	-0.06
	(0.50)	(0.49)	(0.05)	(0.49)	(0.45)	(0.04)
Disp. Over Goods	0.34	0.25	-0.09*	0.24	0.12	-0.13***
	(0.47)	(0.43)	(0.05)	(0.43)	(0.32)	(0.03)
Sought Help from Third Party	0.25	0.13	-0.12**	0.11	0.08	-0.03
	(0.43)	(0.34)	(0.05)	(0.31)	(0.28)	(0.02)
Panel C: Theft, Assault, Harassment						
Victim of Theft	0.40	0.38	-0.03			
	(0.49)	(0.49)	(0.05)			
Theft Caught	0.22	0.06	-0.16**			
	(0.42)	(0.24)	(0.06)			
Victim of Assault	0.05	0.03	-0.02			
	(0.22)	(0.17)	(0.02)			
Assault Caught	0.22	0.00	-0.22			
	(0.43)	(0.00)	(0.25)			
Police Harass	0.05	0.00	-0.05**			
	(0.22)	(0.00)	(0.02)			
Opposition Abused	0.37	0.40	0.04			
	(0.48)	(0.49)	(0.05)			
Any Harassment				0.77	0.69	-0.08**
				(0.42)	(0.46)	(0.04)
Harassment about Business				0.22	0.18	-0.04
				(0.42)	(0.38)	(0.03)
Verbal Harassment				0.52	0.43	-0.09**
				(0.50)	(0.50)	(0.04)
Physical Harassment				0.27	0.13	-0.14***
				(0.45)	(0.34)	(0.03)
Any Theft				0.64	0.54	-0.10**
				(0.48)	(0.50)	(0.04)
Perpetrator is Police/ from Institution				0.11	0.07	-0.04*
				(0.32)	(0.26)	(0.02)
Panel D: Dispute in Collaborative Activities						
Collaboration with Dispute				0.18	0.10	-0.08**
				(0.39)	(0.31)	(0.04)
Harassment during Collaboration				0.12	0.07	-0.05*
				(0.32)	(0.25)	(0.03)

This table shows mean differences in the access and use of institutions between women and men. All the variables are dummy variables. Panel A includes variables related to usage of legal institutions, Panel B reports any dispute from work. Panel C relates to theft, assault and Harassment and Panel D reports disputes in collaboration. Disp. Bus. Agree is dispute over business agreement. Disp. Over Goods is dispute over undelivered or incomplete goods or services. Theft/assault caught is whether the perpetrator of the theft/assault caught. Opposition Abused is whether the opposition in the market frequently receives verbal or physical abuse. Collab and Disp. Male/Female Partner is whether any collaboration ended in dispute and it was with a male/female partner. *** denotes p<0.01, ** denotes p<0.05, and * denotes p<0.1. In Panel B, Sought Help From Third Party is conditional on having any dispute (in Experiment 1, N = 232 for men including one refusing to answer and one reporting don't know to the question on sought help from third party and N = 76 for women; In Experiment 2, N = 154 for men and N = 123 for women). In Panel C, Theft Caught and Assault Caught are conditional on any theft (N=18 for men and N=4 for women) and any assault (N=347 for men and N=128 for women), respectively. In Panel D, Collaboration with Dispute is conditional on having at least one collaboration in the past 12 months (N=207 for men and N=192 for women). The Harassment during Collaboration variable is conditional on experiencing or witnessing business harassment(s), verbal harassment(s), physical harassment(s), theft(s) and/or unwanted sexual proposal(s) (N = 217 for men and N = 206 for women).

Table C.10: Local Institutions, Cooperation and Economic Perfomance

	(1)	(2)	(3)	(4)	(5)
		Collaboration Activities			
	Avg coop	Share order	Lent	Advice	Joint buy
Panel A: Cooperation					
Female	-0.116***	-0.099**	-0.158***	-0.089**	-0.117***
	(0.028)	(0.041)	(0.052)	(0.038)	(0.041)
	[0.000]				
Close to SCC	0.050	0.131**	0.018	0.054	-0.004
	(0.035)	(0.054)	(0.054)	(0.069)	(0.043)
	[0.608]				
Female × Close to SCC	0.080**	0.107**	0.066	0.035	0.110**
	(0.035)	(0.048)	(0.058)	(0.047)	(0.045)
	[0.016]				
Close to Police	0.022	0.098***	-0.077**	0.040	0.027
	(0.026)	(0.036)	(0.038)	(0.036)	(0.036)
	[0.021]				
Female × Close to Police	0.024	0.001	0.069	0.036	-0.009
	(0.036)	(0.053)	(0.064)	(0.042)	(0.051)
	[0.514]				
Adjusted R^2	0.071	0.050	0.052	0.043	0.037
P-value (Close to SCC+ Fem.*Close to SCC = 0)	0.00	0.00	0.19	0.22	0.03
P-value (Close to Police + Fem.*Close to Police = 0)	0.24	0.07	0.88	0.07	0.78
P-value (Fem + Fem.*Close to SCC= 0)	.33	.88	.15	.19	.9
P-value (Fem + Fem.*Close to Police= 0)	.01	.02	.13	.26	0
Observations	2211	2211	2211	2211	2211
Mean Dep Var	0.54	0.57	0.52	0.75	0.32
SD Dep Var	0.33	0.50	0.50	0.44	0.47
Controls: Business Density Control	✓	✓	✓	✓	✓
Controls: Business Owners Control					
Controls: Industry FE					
Controls: Market FE	✓	✓	✓	✓	✓

	(1)	(2)	(3)	(4)	(5)
		Mean Sales		Employment	
	Index	Levels	Logs	Levels	Growth
Panel B: Economic Performance					
Female	-0.028	99.650	-0.153	-0.089	0.011
	(0.069)	(340.797)	(0.095)	(0.144)	(0.058)
	[0.000]				
Close to SCC	0.405***	2549.257***	0.721***	0.344	0.023
	(0.147)	(631.373)	(0.166)	(0.418)	(0.181)
	[0.000]				
Female × Close to SCC	-0.062	-629.381*	-0.059	0.002	-0.019
	(0.070)	(345.481)	(0.104)	(0.179)	(0.068)
	[0.882]				
Close to Police	-0.063	516.594	0.175	-0.389	-0.031
	(0.122)	(639.185)	(0.162)	(0.287)	(0.142)
	[0.153]				
Female × Close to Police	0.032	-75.589	0.004	0.100	-0.037
	(0.086)	(435.817)	(0.101)	(0.156)	(0.067)
	[0.150]				
Adjusted R^2	0.327	0.209	0.301	0.283	0.045
P-value (Close to SCC+ Fem.*Close to SCC = 0)	0.02	0.00	0.00	0.39	0.98
P-value (Close to Police + Fem.*Close to Police = 0)	0.83	0.58	0.30	0.33	0.62
P-value (Fem + Fem.*Close to SCC= 0)	.27	.2	.05	.61	.92
P-value (Fem + Fem.*Close to Police= 0)	0.94	0.94	0.13	0.94	0.65
Observations	2209	2085	2077	2207	2099
Mean Dep Var	0.02	1862.55	6.66	1.94	0.15
SD Dep Var	0.93	3565.41	1.27	2.22	1.03
Controls: Business Density Control	✓	✓	✓	✓	✓
Controls: Business Ownership Control					
Controls: Industry FE	✓	✓	✓	✓	✓
Controls: Market FE	✓	✓	✓	✓	✓

The variables in Panel A 'Joint Buy', 'Lent', 'Advice' and 'Share Order' are dummies that indicate whether a person ever engaged in the relevant activity. The variable 'Avg coop' is an index of cooperative behavior, calculated as a simple average of the four dummies. In Panel B the Index of economic performance is obtained by standardizing mean sales in levels and employment levels (separately) and then by taking the average of these two standardized values. The variable 'Close to SCC' is an indicator of value one if the business is located closer than median to the SCC and 0 otherwise. The variable 'Close to Police' is an indicator of value one if the business is located closer than median to the Police and 0 otherwise. Standard errors are clustered at the marketplace level. The sample comes from our Census of Small-Scale Manufacturers in Lusaka (N=2,216). MHT corrected p values are shown in brackets. *** denotes p<0.01, ** denotes p<0.05, and * denotes p<0.1.

Table C.11: Local Adjudication, Cooperation and Economic Performance: Robustness

	Average cooperation			Mean sales		
	(1)	(2)	(3)	(4)	(5)	(6)
Female	-0.062**	-0.057*	-0.016	-1256.672***	-882.203***	-442.057
	(0.029)	(0.033)	(0.033)	(280.667)	(288.035)	(316.075)
In market	0.071**	0.106***	0.094**	-1554.105**	-1177.340*	-913.142*
	(0.030)	(0.038)	(0.036)	(599.108)	(597.641)	(543.534)
Female × In market	0.070*	0.077*	0.066*	869.427***	686.052**	556.879*
	(0.039)	(0.041)	(0.040)	(298.329)	(292.782)	(301.856)
Adjusted R^2	0.100	0.105	0.128	0.108	0.162	0.243
P-value (In + Fem.*In = 0)	0.00	0.00	0.00	0.23	0.37	0.50
P-value (Fem + Fem.*In = 0)	0.72	0.45	0.05	0.03	0.36	0.45
Observations	2212	2041	2037	2092	1949	1943
Mean Dep Var	.54	.55	.55	1865.28	1803.39	1799.31
SD Dep Var	.33	.33	.33	3566.06	3438.69	3436.76
Density Controls	✓	✓	✓	✓	✓	✓
Market Fixed Effects	✓	✓	✓	✓	✓	✓
Industry Fixed Effects	✓		✓			✓
Owner Controls		✓	✓		✓	✓

The variable 'Average Cooperation' is an index of cooperative behavior, calculated as a simple average of the four dummies 'Joint Buy', 'Lent', 'Advice' and 'Share Order' defined in previous tables and in the main body of the paper. The variable 'Mean Sales' is the average of sales in a good week and in a bad week. If the person could not provide an exact number, we also asked for an upper and lower bound. We then imputed the average of the bounds to the sales variables. All the sales variables are winsorised at the 99level to control for outliers. The variable 'In market' is an indicator of value one if the business is located inside a formal market. Density Controls include a dummy variable for whether the business is located within 100 meters of a market, the total number of businesses within 100 meters, and the number of business from the same sector within 100 meters and the population density in the administrative area where the business is located (ward). All the regressions include marketplace level fixed effects and a control for whether the business is located close to the police or the Small Claims Court. All the regressions include marketplace level fixed effects. Standard errors are clustered at the marketplace level. The sample comes from our Census of Small-Scale Manufacturers in Lusaka (N=2,216), but the sample in each regression varies because of missing values in the owner controls variables. Clustered standard errors in parentheses. *** denotes p<0.01, ** denotes p<0.05, and * denotes p<0.1.

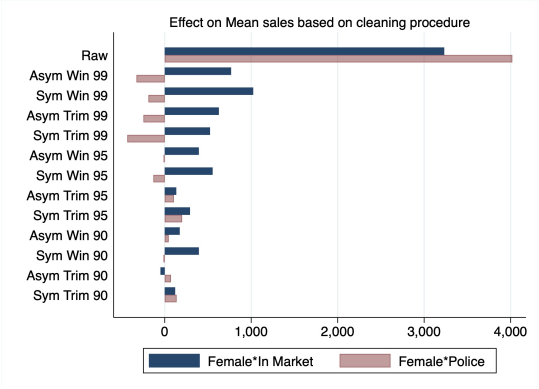
Table C.12: Distances to Local Institutions by Gender

	(1)	(2)	(3)
		Coefficient on Female dummy (SE)	
	Male Mean (SD)	OLS (no controls)	OLS (with market FE)
In Market	0.598	-0.001	0.032
	(0.490)	(0.023)	(0.020)
Market within 100m	0.675	-0.022	0.014
	(0.468)	(0.022)	(0.020)
Km to Market	0.128	0.002	-0.012
	(0.229)	(0.011)	(0.011)
< med km to Court	0.468	0.124***	-0.004
	(0.499)	(0.023)	(0.008)
Km to Court	5.646	-0.555***	-0.003
	(2.422)	(0.120)	(0.036)
< med km to Police	0.585	0.032	0.014
	(0.493)	(0.023)	(0.015)
Km to Police	0.485	-0.032*	-0.023*
	(0.400)	(0.019)	(0.013)
< med km to Court or Police	0.735	0.058***	-0.005
	(0.441)	(0.020)	(0.013)

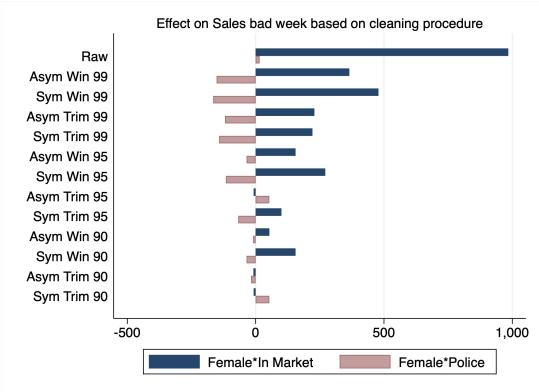
This table shows gender differences in the distance to different local institutions. The variable "In Market" is an indicator for whether a business is located inside a formal market. The variable "Market within 100m" is an indicator for whether there is a market in a circle of 100 m radius around the business. The variables "Km to Market", "Km to Court" and "Km to Police" show the distance from a market (conditional on being within one kilometer within a market), from the Small Claims Court or from the Police in kilometers. The variables "< med km to" are indicator variables equal to one if a business has a below-median distance from a given local institution. Column (1) shows the mean and standard deviation of each variable for the sample of male businesses. Columns (2) and (3) report the coefficient of a regression of the row variable on a female dummy, without controls (in Column (2)) and with marketplace fixed effects (in Column (3)). Robust standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Figure C.8: Robustness of Coefficients on $Fem_{ism} * InstProx_i$ in Sales Regressions

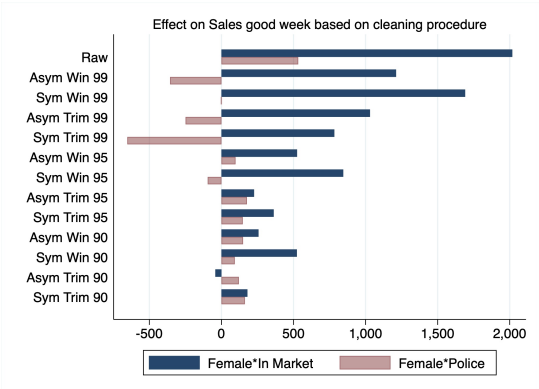
(a). Mean sales



(b). Sales in Bad Week



(c). Sales in Good Week



This figure shows the robustness of the coefficients on the interaction term $Fem_{ism} * instProx_i$ in regressions where the dependent variables are sales, for different cleaning procedures of the sales variables. The top figure is for average sales, the middle figure for sales in a bad week and the bottom figure for sales in a good week (all in levels). Blue bars show the coefficients on the interaction of the female dummy with being in a market and pink light bars for the interaction of the female dummy with being close to the Small Claims Court or the police. The main tables in the paper use the version of the variables winsorised asymmetrically at the top 1%. The raw data version of the sales in good week removes one outlier which is more than 40 times greater than the standard deviation of the sales distribution in a good week.

Table C.13: Experimental Treatment

Experiment 1			**Experiment 2**	
	Inside/inside	Inside/outside		Inside/inside
Control	94	95	Gender-blind Chief	147
Chief	96	0	Gender-aware Chief	150
SCC	96	96		
Total markets: 16			Total markets: 12	

The numbers represent how many Player As (investors) are in each treatment group. In Experiment 1, each player participated in two rounds: once as an Investor (Player A) and once as a Trustee (Player B), each time paired with a different partner. Therefore, the numbers shown for each group represent the count of both Investors and Trustees. Out of a total of 480 players, three were excluded due to data quality issues. In Experiment 2, participants played only one role—either Investor or Trustee. This means that for each treatment group, there is a separate count of Player Bs. For example, there were 147 Player As and 147 Player Bs (for a total of 294) participating in the "Chief Gender-Blind" treatment.

Table C.14: Experiment 1: Balance Checks

Variable	(1) Mean Control	(2) Mean Chief	(3) Mean Small Claims Court	(4) Chief vs Control	(5) Small Claims Court vs Control
Female	0.258	0.198	0.229	-0.060	-0.029
	(0.440)	(0.401)	(0.423)	(0.061)	(0.063)
				[0.979]	[0.992]
Age	41.913	43.021	42.052	1.108	0.139
	(9.108)	(9.973)	(10.876)	(1.395)	(1.466)
				[0.983]	[0.924]
Secondary school	0.344	0.323	0.302	-0.021	-0.042
	(0.478)	(0.470)	(0.462)	(0.069)	(0.068)
				[0.997]	[0.993]
Has a smart phone	0.516	0.479	0.562	-0.037	0.046
	(0.502)	(0.502)	(0.499)	(0.073)	(0.073)
				[0.996]	[0.996]
Business age	15.120	14.926	14.542	-0.194	-0.578
	(10.129)	(8.140)	(9.042)	(1.346)	(1.399)
				[0.887]	[0.991]
Days worked	5.957	6.073	5.990	0.116	0.033
	(0.509)	(0.567)	(0.703)	(0.078)	(0.090)
				[0.862]	[0.977]
Full-time employees	0.355	0.385	0.271	0.031	-0.084
	(0.829)	(1.173)	(0.718)	(0.148)	(0.113)
				[0.995]	[0.995]
Heard of Small Claims Court	0.228	0.240	0.125	0.011	-0.103*
	(0.422)	(0.429)	(0.332)	(0.062)	(0.055)
				[0.973]	[0.564]
Ever lent	0.731	0.698	0.740	-0.033	0.008
	(0.446)	(0.462)	(0.441)	(0.066)	(0.065)
				[0.998]	[0.990]
Ever gave advice	0.903	0.938	0.948	0.034	0.045
	(0.297)	(0.243)	(0.223)	(0.039)	(0.038)
				[0.988]	[0.963]
Ever bought jointly	0.237	0.302	0.292	0.066	0.055
	(0.427)	(0.462)	(0.457)	(0.065)	(0.064)
				[0.983]	[0.991]
Ever shared order	0.613	0.646	0.688	0.033	0.075
	(0.490)	(0.481)	(0.466)	(0.071)	(0.070)
				[0.992]	[0.969]
Trust in Neighbors (1-4 scale)	2.761	2.906	2.906	0.145	0.145
	(0.882)	(0.872)	(0.895)	(0.128)	(0.130)
				[0.971]	[0.973]
Trust in Strangers (1-4 scale)	1.699	1.604	1.646	-0.095	-0.053
	(0.791)	(0.747)	(0.794)	(0.112)	(0.115)
				[0.987]	[0.998]
Observations	95	96	96	191	191

The table shows balance checks for experiment 1. The table excludes participants in the treatment with a player outside the market (which was not implemented for the Chief condition). The sample comes from our first artefactual field experiment conducted in Lusaka in 2017 (N=477).Multiple Hypothesis Testing corrected p-values are in brackets. Robust standard errors in parentheses. *** denotes p<0.01, ** denotes p<0.05, and * denotes p<0.1.

Table C.15: Experiment 2: Balance Checks

	Women			Men		
	(1)	(2)	(3)	(4)	(5)	(6)
Variable	Chief: Gender Blind	Chief: Gender Aware	Diff	Chief: Gender Blind	Chief: Gender Aware	Diff
Age	41.132	41.558	0.426	38.648	43.329	4.681 **
	(9.690)	(10.264)	(1.614)	(11.658)	(14.669)	(2.212)
			[1.000]			[0.430]
Primary education or less	0.197	0.247	0.050	0.225	0.219	-0.006
	(0.401)	(0.434)	(0.068)	(0.421)	(0.417)	(0.070)
			[0.998]			[0.936]
Secondary education only	0.684	0.688	0.004	0.662	0.685	0.023
	(0.468)	(0.466)	(0.076)	(0.476)	(0.468)	(0.079)
			[0.960]			[1.000]
Married	0.342	0.494	0.152 *	0.676	0.740	0.064
	(0.478)	(0.503)	(0.079)	(0.471)	(0.442)	(0.076)
			[0.591]			[0.995]
From the Bemba ethnicity	0.303	0.273	-0.030	0.141	0.205	0.064
	(0.462)	(0.448)	(0.074)	(0.350)	(0.407)	(0.063)
			[1.000]			[0.985]
From the Chewa ethnicity	0.039	0.091	0.052	0.155	0.096	-0.059
	(0.196)	(0.289)	(0.040)	(0.364)	(0.296)	(0.055)
			[0.947]			[0.987]
From the Nsenga ethnicity	0.079	0.052	-0.027	0.099	0.151	0.052
	(0.271)	(0.223)	(0.040)	(0.300)	(0.360)	(0.055)
			[1.000]			[0.990]
In the manufacturing sector	0.461	0.481	0.020	0.507	0.493	-0.014
	(0.502)	(0.503)	(0.081)	(0.504)	(0.503)	(0.084)
			[0.999]			[1.000]
Tenure in the market	8.147	8.740	0.593	9.972	11.817	1.845
	(7.226)	(7.426)	(1.189)	(7.816)	(11.169)	(1.618)
			[0.999]			[0.984]
Days per Week worked	6.184	6.195	0.011	6.423	6.384	-0.039
	(0.534)	(0.586)	(0.091)	(0.552)	(0.659)	(0.101)
			[1.000]			[1.000]
Hours a day worked	10.534	10.513	-0.021	11.335	11.282	-0.053
	(1.490)	(1.527)	(0.247)	(1.332)	(1.992)	(0.284)
			[0.996]			[1.000]
Has had at least one collaboration (past 12 months)	0.750	0.766	0.016	0.761	0.753	-0.008
	(0.436)	(0.426)	(0.070)	(0.430)	(0.434)	(0.072)
			[0.998]			[0.990]
Number of collaborations (past 12 months)	1.605	1.481	-0.124	1.521	1.493	-0.028
	(1.307)	(1.165)	(0.200)	(1.372)	(1.215)	(0.216)
			[1.000]			[0.998]
General Trust (WVS)	0.053	0.091	0.038	0.085	0.041	-0.044
	(0.225)	(0.289)	(0.042)	(0.280)	(0.200)	(0.040)
			[0.996]			[0.989]
Comfortable leaving the shop unattended	0.197	0.234	0.037	0.394	0.384	-0.010
	(0.401)	(0.426)	(0.067)	(0.492)	(0.490)	(0.082)
			[1.000]			[1.000]
Any business dispute (past 12 months)	0.487	0.403	-0.084	0.535	0.589	0.054
	(0.503)	(0.494)	(0.081)	(0.502)	(0.495)	(0.083)
			[0.989]			[0.998]
Gender of player B: female	0.408	0.597	0.189 **	0.493	0.534	0.041
	(0.495)	(0.494)	(0.080)	(0.504)	(0.502)	(0.084)
			[0.254]			[1.000]
Observations	76	77	153	71	73	144

The table shows balance checks for Investors in the second experiment. The sample comes from our first artefactual field experiment conducted in Lusaka in 2024 (N=297).Multiple Hypothesis Testing corrected p-values are in brackets. Robust standard errors in parentheses. *** denotes p<0.01, ** denotes p<0.05, and * denotes p<0.1.

Table C.16: Tokens Investor Sends by Institutional Treatment

	Tokens Investor sent		
	(1)	(2)	(3)
Female	-1.243***	-1.030***	-1.236***
	(0.430)	(0.331)	(0.433)
Chief	-0.0851		
	(0.382)		
Court		0.252	
		(0.281)	
In/out			-0.0527
			(0.416)
Chief × Female	1.610**		
	(0.682)		
Court × Female		0.281	
		(0.452)	
In/out × Female			0.462
			(0.662)
Constant	4.198***	4.101***	4.267***
	(0.361)	(0.238)	(0.364)
Observations	189	379	187
Adjusted R^2	0.020	0.030	0.031
Mean	4.087	4.076	4.087
SD	2.412	2.346	2.412

The dependent variable is the number of tokens sent by the Investor. All regressions include a dummy on the Investor's gender, and each column includes a dummy for the different treatment arm (in/out, Court, and Chief), together with the interaction of that treatment arm and the Investor's gender. Column (1) only includes participants in the Inside/Inside condition, either in Control or Chief arms. Column (2) includes participants in both the Inside/Inside and Outside/Inside conditions, either in Control or Court arms, and controls for the in/out treatment. Column (3) excludes participants in Chief or Court arms. The sample comes from our artefactual field experiment conducted in Lusaka in 2017 (N=477). Robust standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table C.17: Average Return Ratio by Institutional Treatment

	Average Return Ratio		
	(1)	(2)	(3)
Female	0.000115	-0.0427**	0.00144
	(0.0263)	(0.0200)	(0.0265)
Chief	0.0247		
	(0.0200)		
Court		0.0340**	
		(0.0163)	
In/out			0.0218
			(0.0222)
Chief × Female	-0.0524		
	(0.0417)		
Court × Female		0.0284	
		(0.0260)	
In/out × Female			-0.0787**
			(0.0376)
Constant	0.416***	0.418***	0.403***
	(0.0208)	(0.0143)	(0.0209)
Observations	190	380	188
Adjusted R^2	0.000	0.046	0.053
Mean	.423	.435	.423
SD	.135	.131	.135

The dependent variable is the Trustee's average return ratio. All regressions include a dummy on the Trustee's gender, and each column includes a dummy for the different treatment arm (in/out, Court, and Chief), together with the interaction of that treatment arm and the Trustee's gender. Column (1) only includes participants in the Inside/Inside condition, either in Control or Chief arms. Column (2) includes participants in both the Inside/Inside and Outside/Inside conditions, either in Control or Court arms, and controls for the in/out treatment. Column (3) excludes participants in Chief or Court arms. The sample comes from our artefactual field experiment conducted in Lusaka in 2017 (N=477). Robust standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table C.18: Investor's Earnings

	Investor's Earnings			
	(1)	(2)	(3)	(4)
Female	-0.0680	-0.152		
	(0.355)	(0.381)		
Chief	0.566*	0.566*	0.620**	0.607**
	(0.292)	(0.292)	(0.251)	(0.271)
Court	1.107***	1.108***	0.914***	0.888***
	(0.282)	(0.282)	(0.221)	(0.292)
In/out	0.208	0.208	0.0577	0.0317
	(0.284)	(0.284)	(0.221)	(0.301)
Female × Chief	0.550	0.634		
	(0.657)	(0.668)		
Female × Court	-0.588	-0.412		
	(0.429)	(0.478)		
Female × In/out	-0.256	-0.105		
	(0.418)	(0.578)		
Female × Court × In/out		-0.306		
		(0.612)		
Court × In/out				0.0516
				(0.442)
Constant	10.67***	10.67***	10.73***	10.74***
	(0.253)	(0.254)	(0.214)	(0.243)
Observations	475	475	477	477
Adjusted R^2	0.043	0.041	0.034	0.032
Mean	10.855	10.855	10.863	10.863
SD	2.244	2.244	2.097	2.097

The dependent variable is the Investor's final earnings. Regressors include the treatment arms (in/out, Court, and Chief). Columns 1 and 2 additionally include a dummy variable indicating the Investor's gender, and the interaction terms of this variable with the treatment arms. The sample comes from our our artefactual field experiment conducted in Lusaka in 2017 (N=477). Robust standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01

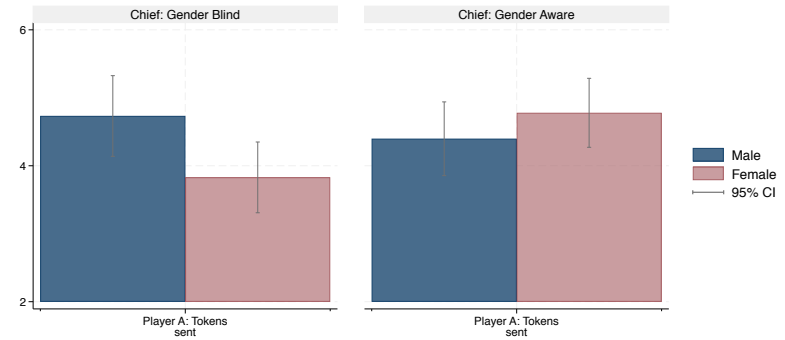
Table C.19: Trustee's Earnings

	Trustee's Earnings			
	(1)	(2)	(3)	(4)
Female	-0.119	0.517		
	(0.976)	(1.176)		
Chief	-0.202	-0.204	0.114	-0.147
	(0.596)	(0.596)	(0.536)	(0.598)
Court	-0.393	-0.394	-0.305	-0.824
	(0.512)	(0.512)	(0.432)	(0.582)
In/out	0.389	0.390	0.360	-0.164
	(0.512)	(0.512)	(0.432)	(0.677)
Female × Chief	1.400	0.771		
	(1.390)	(1.537)		
Female × Court	0.239	-1.093		
	(0.971)	(1.338)		
Female × In/out	-0.143	-1.262		
	(0.987)	(1.464)		
Female × Court × In/out		2.292		
		(1.657)		
Court × In/out				1.039
				(0.864)
Constant	6.892***	6.903***	6.805***	7.066***
	(0.538)	(0.538)	(0.488)	(0.562)
Observations	476	476	477	477
Adjusted R^2	-0.007	-0.005	-0.002	-0.001
Mean	6.757	6.757	6.821	6.821
SD	4.519	4.519	4.736	4.736

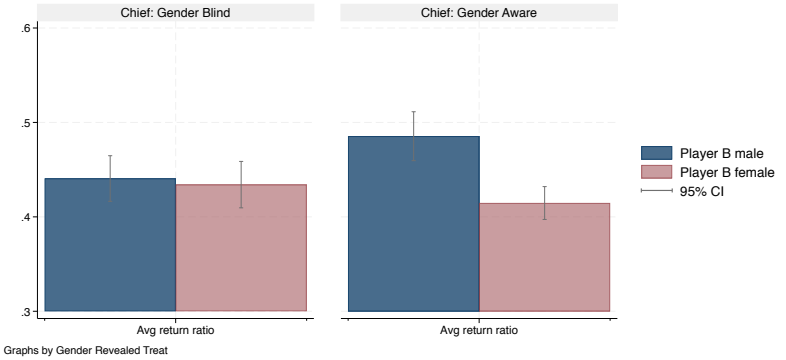
The dependent variable is the Trustee's final earnings. Regressors include the treatment arms (in/out, Court, and Chief). Columns 1 and 2 additionally include a dummy variable indicating the Investor's gender, and the interaction terms of this variable with the treatment arms. The sample comes from our our artefactual field experiment conducted in Lusaka in 2017 (N=477). Robust standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Figure C.9: Experiment 2: Trust and Trustworthiness by Gender and Treatment

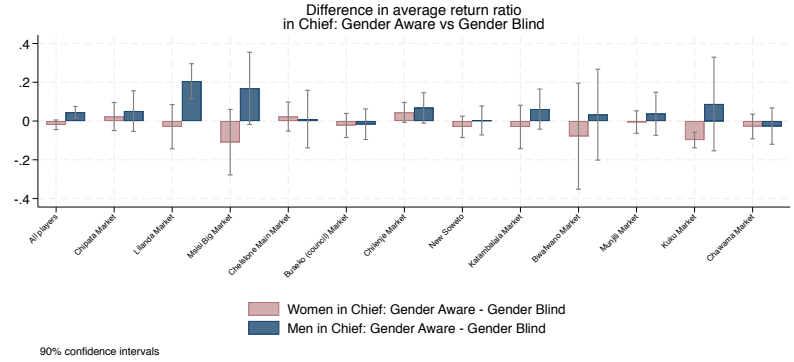
(a). Trust



(b). Trustworthiness



(c). Trustworthiness across markets, by gender



These figures show the average treatment effects of the Chief Gender Blind vs Chief Gender Aware on trust and trustworthiness. Data is from the second experimental game. Panel (a) shows the average tokens sent by player A in each of the experimental arms, by gender. Panel (b) shows the average return ratio of of tokens of player B, by gender. Panel (c) shows the difference in average return ratio in the gender aware vs gender blind experimental conditions, by gender and market.

Table C.20: Revelation Trust Premium and Other Experimental Outcomes

	Correlation	T-stat	N
Panel A: Trust Behavior			
Women in Chief Gender Aware: Avg tokens sent	0.677	3.433	12
Men in Chief Gender Aware: Avg tokens sent	-0.565	-3.511	12
Women (Chief Gender Aware - Chief Gender Blind): Avg tokens sent	0.899	8.083	12
Men (Chief Gender Aware - Chief Gender Blind): Avg tokens sent	-0.863	-7.799	12
Panel B: Preferences			
Preference for Chief Gender Aware: Share of female marketeers	0.486	1.910	12
Preference for Chief Gender Aware: Share of male marketeers	-0.276	-0.931	12
Women (Share Pref Chief Gender Aware - Share Pref Chief Gender Blind)	0.540	2.127	12
Men (Share Pref Chief Gender Aware - Share Pref Chief Gender Blind)	-0.349	-1.304	12
Panel C: Actual Chief Behavior			
Chief Gender Aware: Share of women's complaints with reallocation	0.660	3.438	11
Chief Gender Aware: Share of men's complaints with reallocation	-0.135	-0.345	8
Panel D: Expected Chief Behavior			
Market guess about women's complaints: Chief cutoff	-0.066	-0.176	12
Market guess about men's complaints: Chief cutoff	0.264	1.008	12
Market guess about women's complaints: Avg % change return ratio	0.538	2.319	12
Market guess about men's complaints: Avg % change return ratio	-0.158	-0.685	12
Expectation that chief will favor women: Share of female marketeers	0.371	1.520	12
Expectation that chief will favor women: Share of male marketeers	0.246	1.006	12
Expectation that chief will favor women: Share of marketeers	0.344	1.315	12
Panel E: Chief's Hypothetical Behavior			
Chief hypo. about women's complaints: Avg cutoff	0.234	0.754	12
Chief hypo. about men's complaints: Avg cutoff	0.145	0.548	12
Chief hypo. about women's complaints: Avg % change return ratio	-0.311	-1.048	12
Chief hypo. about men's complaints: Avg % change return ratio	0.296	1.006	12

This table shows the correlation between the market-level revelation trust premium and other experimental outcomes at the market or market-gender level. The revelation trust premium is obtained as the difference in tokens sent by women in Chief Gender Aware - Chief Gender Blind minus the same difference for men. The third column shows the t-statistic of a univariate regression of this double difference on the variables in the left-hand side column. Panel A shows correlations with investors' behavior. Panel B shows correlations with investors' preferences for gender revelation. Panel C shows correlations with the chief's actual redistributive behavior conditional on the Investor having complained to the chief about the number of tokens the Trustee sent back to them. Panel D shows correlations with participants' expected chief behavior in the game, according to incentivized questions asked at the end of the trust game. The variable "Expectation that the chief will favor women" is from a non-incentivized question asked to marketeers after they received their treatment assignment where they were asked whether they thought the chief's decision would change depending on whether the chief was aware of their gender or not, and why. Panel E describes the Chief's hypothetical behavior. The chief was presented with multiple scenarios of complaints, once for a female complainant and once for a male complainant. Chiefs were asked what the largest amount of tokens sent back by the Trustee would lead them to reallocate tokens to the Investor, and how many tokens they would redistribute at this complaint. These are respectively the variables "Chief hypo. : Avg cutoff" and "Chief hypo. : Avg % change return ratio". The number of observations is not equal to 12 for all variables, because Investors in the Chief Gender Aware condition did not complain in all 12 markets. Details on the constructoin of the indices are in Appendix D.

Table C.21: Revelation Trust Premium and Market Features

	Correlation	T-stat	N
Panel A: Business Features			
Average number of repeat customers of women	0.463	1.838	12
Mean sales of women (std)	0.133	0.417	12
Average tenure of women in the market	-0.220	-0.701	12
Average number of workers of women	-0.202	-0.840	12
Panel B: Trust and Collaboration			
Share of women inside the market for security reasons	0.524	3.525	12
Share of women who have had any collaboration	0.536	2.878	12
Share of women who have collab. with partner of different gender or age	0.481	2.034	12
Share of women who have collaborated only with women	0.335	1.631	12
Share of women who have had any business dispute	0.396	1.499	12
Share of women having exp/witn any harassment	0.319	1.212	12
General Trust (GSS) of all marketeers	-0.398	-1.296	12
General Trust (GSS) of women	-0.329	-1.591	12
Share of women believing a woman may not collab. with a man due to trust	-0.699	-3.090	12
Panel C: Market Features			
Listing: Share of women owners out of all firms	0.360	1.030	12
Listing: Share of women owners out of manufacturing firms	0.333	0.795	12
Census: Share of women owners out of manufacturing firms	-0.097	-0.317	12
Census: Average number of employees	-0.232	-0.895	12
Census: Number of businesses in the market	-0.594	-3.517	12

This table shows the correlation between the revelation trust premium and market features. The revelation trust premium is obtained as the difference in tokens sent by women in Chief Gender Aware - Chief Gender Blind minus the same difference for men. The third column shows the t-statistic of a univariate regression of this double difference on the variables in the left-hand side column. Panel A shows correlations with market-level averages of business features asked in the pre-games survey to participants. The "number of repeat customers" is defined as "customers that come back to buy from your shop goods or services more than once a year". The "mean sales" variable is the mean of the answers by marketeers of the total value of sales for all products and services of the business in a good and in a bad week winsorised at the 99th percentile. The "tenure in the market" is the number of years the business has been operating in the market. Panel B shows correlations with variables on Trust and Collaboration. The variable "Inside the market for security reasons" is built using a question in the survey where marketeers were asked why they chose to locate your business inside this market. "Share of women believing a woman may not collab. with a man due to trust" uses a question where marketeers were presented with a scenario where woman refuses a collaboration offered by a man. The variables takes 1 if the marketeers gave a reason related to the woman not being able to trust the man and 0 otherwise. Panel C presents market features constructed from the Census of Small-Scale Manufacturers collected in 2016 and the listing of all the businesses belonging to manufacturing, and restaurants and hairdressers within each of the 12 markets in the experiment 2.

D Chiefs Survey and Indexes Construction

D.1 2021 Chiefs survey

The Chiefs survey was collected between the end of July 2021 and the beginning of September 2021. The survey was implemented over the phone in most of the cases to guarantee the safety of the surveyors during the collection. One of the challenges was being able to find chiefs who were operating in the market in 2016 (when our main Census data were collected). Our approach was to visit most markets in person and ask marketeers if they knew who was the market chief in 2016. If we couldn't find the 2016 chief after several attempts, we interviewed the current chief for that particular market. We have a total of 86 respondents in our data, for a total of 76 unique markets. Market chiefs from 2016 are 51. In some markets, we interviewed both the current and old market chief (10 markets), but we consider only the 2016 market chief for the analysis. As we have 81 markets in our data, we were thus able to cover most of the markets with our interviews. In terms of business representativeness, the chiefs interviewed belong to markets were 531 female firms out of 538 in-market female firms are located. If we consider only the 51 chiefs from 2016, they cover 473 female marketeers out of 538.

The survey contained the following main sections:

- Demographics, education, business status, tenure and roles in market
- Market characteristics: chief elections, chiefs' length of mandate, other commitees, written record keeping of market affairs
- Scenario questions on inter-gender dispute resolution
- Gender attitudes and trust

To measure how the chief behaves in dispute resolutions between men and women, we proposed two different scenarios:

> A woman marketeer gets an unusual order and asks a male marketeer to help her. She says that he agreed to produce 50 pieces for 5000KW. But the next day he refuses to help for that quantity. The female marketeer asks you for help, but the man says that they had agreed that he would produce 30 pieces for 5000KW. Now we are going to ask you some questions about the decisions you would take in this scenario.
>
> A female marketeer leaves the shop unattended for 10 minutes. She comes back and realizes that some of her products have been stolen. She comes to you for help.

We ask follow-up questions belonging to four broad categories: i) institutional support for women, ii) formal and objective rules for adjudication, iii) practice and procedures followed by the chief, iv) likely outcome of the dispute.

Answers to the different questions of the survey feed into the construction of three different indexes of gender bias, legal competence and managerial duties. Table D.2 shows the components of the different indexes. For all the indexes, a common methodology was used following Kling et al. (2007). All variables are first consistently signed (e.g. higher value associated with higher bias); (ii) each component of the index is then standardized by subtracting the overall mean and dividing by the overall standard deviation; (iii) the sum of the standardized components is taken and (iv) the sum is standardized again. Finally, a dummy variable is created by taking values above or below median value.

Table D.1 shows descriptive statistics on the first two sections of the survey.

Table D.1: Descriptive Statistics from Chiefs Survey

	(1) Full sample	(2) Council markets	(3) Cooperative markets
Age	47.68	46.87	48.04
	(8.156)	(8.181)	(8.197)
Female	0.08	0.09	0.08
	(0.271)	(0.288)	(0.267)
Secondary school	0.57	0.74	0.49
	(0.499)	(0.449)	(0.505)
Chief has a business	0.87	0.83	0.89
	(0.340)	(0.388)	(0.320)
Business age	8.13	8.13	8.14
	(1.456)	(1.125)	(1.584)
Business is inside mkt	0.92	0.95	0.91
	(0.267)	(0.229)	(0.282)
Home within 20 minutes	0.53	0.39	0.58
	(0.503)	(0.499)	(0.497)
GSS Trust	0.09	0.04	0.11
	(0.291)	(0.209)	(0.320)
Chief start year	2016	2016	2016
	(3.131)	(3.350)	(3.065)
How often market meetings	3.97	4.09	3.92
	(1.119)	(1.125)	(1.124)
Mandate length	3.80	4.29	3.60
	(1.653)	(1.953)	(1.485)
Less than 24 hours to arbitrate	0.82	0.78	0.83
	(0.390)	(0.422)	(0.379)
Share of services responsible for	0.52	0.56	0.50
	(0.306)	(0.307)	(0.307)
Chief is elected	0.87	0.74	0.92
	(0.340)	(0.449)	(0.267)
N	76	23	53

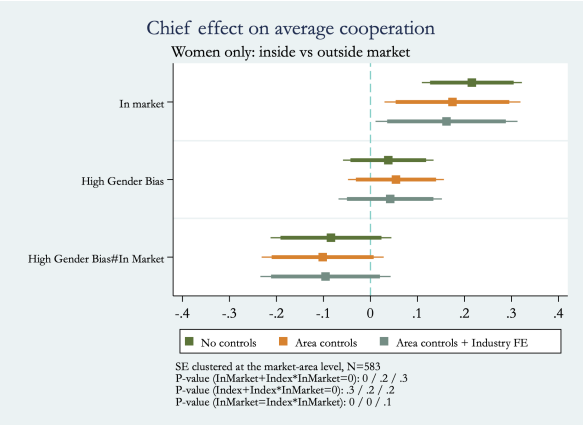
The table shows descriptive statistics from the Chiefs Survey. "Lives within 20 minutes" shows the percentage of chiefs who live within a 20 minutes walk from the market. The variable "Share of services responsible for" is computed as follows: we listed 12 different services that are commonly offered in the market (e.g., fee-paying toilets, waste management) and we asked the chief which ones are present and whether s/he is directly responsible for each of them. The variable is the average share of services that the chief is responsible for. Standard errors in parentheses.

Table D.2: Index Components

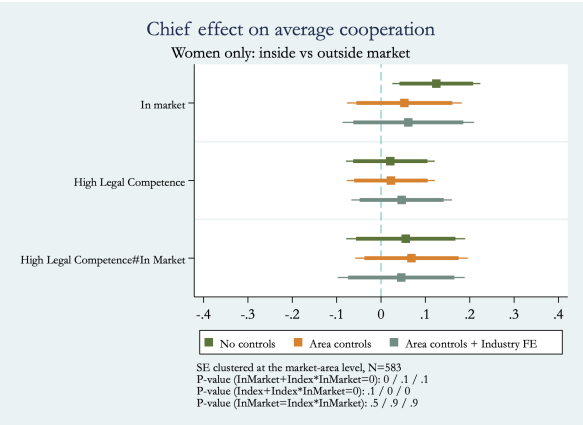
	Question Type	Questions	Source
Gender Bias Index	Inter-gender Dispute Scenarios	Chief uses subjective decision rules	Own
		Woman is unlikely to win dispute	Own
		Chief more likely to catch perpetrator against a man	Own
	Self-reported Attitudes	Women are better political leaders	WVS
		Women are better business executives	WVS
		Men have more right to a job when jobs are scarse	WVS
		Women are at a disadvantage in dealing with police	WJP
		Women are at a disadvantage in dealing with market leaders	WJP
Legal Competence Index	Inter-gender Dispute Scenarios	Number of times perpetrator is caught	Own
		Written records of disputes are kept	Own
		Number of pieces of evidence to decide	Own
		Time to reach a decision	Own
	Market characteristics	Chief part of disciplinary committee	Own
Managerial Duties Index	Market characteristics	Number of services in market	Own
		Share of services under chief's responsibility	Own
		Written records of disputes, behaviors, fees, entrants/leavers	Own
	Relationship with marketeers	How many ways to meet	Own
		Chief's phone number available to all	Own
		Frequency of market meetings	Own

Figure D.1: Market Effect on Female Cooperation by Chief's Characteristics: Women Inside vs Outside Markets

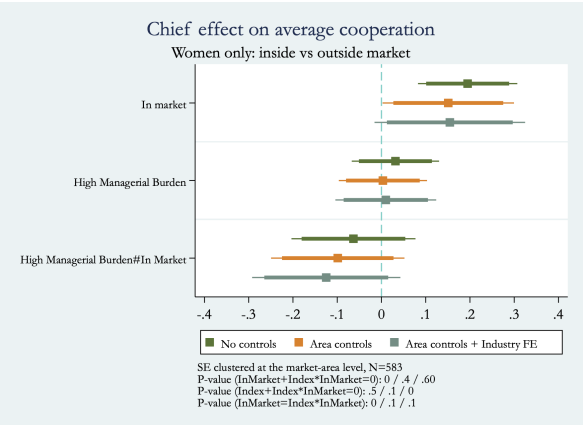
(a). Cooperation and Chief's Bias



(b). Cooperation and Chief's Legal Competence



(c). Cooperation and Chief's Managerial Duties



Each figure in Panels (a), (b) and (c) show the coefficients of three regressions, which differ only in the controls used. All the specifications regress average cooperation on a dummy variable for being located inside a market ("In Market"), a dummy variable for having a chief with above average score on a certain index and the interaction between the two. In Panel (a), the dummy is for above-median score in the index of gender bias. In Panel (b), the variable is for above-median score in the index of legal competence and in Panel (c) for above-median managerial duties. The top coefficient (dark green) is for a regression with no additional control, the intermediate (orange) coefficient is for a regression with density controls and the bottom coefficient (light green) is for a regression with density controls and industry fixed effects (Naics 3). Average cooperation is an index of cooperative behavior, calculated as a simple average of the four dummies "Joint Buy", "Lent", "Advice" and "Share Order" defined in the main tables. Error bars show 95% and 90% confidence intervals. The construction of the indexes on gender bias, legal competence and managerial duties is explained above.

D.2 Experiment 2: Chiefs survey

While collecting data on from marketeers in experiment 2, we also administered a Chief survey to the market chiefs of the 12 markets where we conducted the data collection.

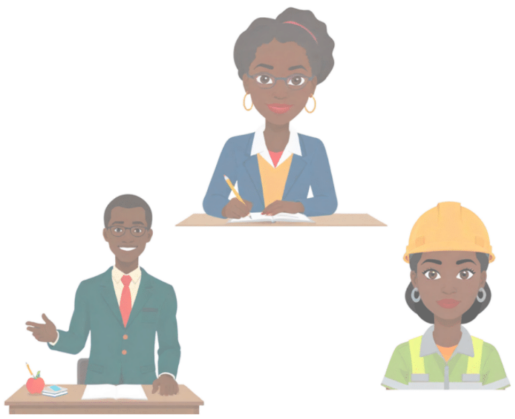
Following the pre-registration of our experiment, we asked again the same questions that allows us to construct the variables that make up the "chief bias" index. However, to keep the survey length more limited, we skipped some questions and thus cannot construct the "managerial competence" and "legal competence" indices.

In addition to the chief bias index, to capture chief's behavior and attitudes related to gender, we also added the following questions:

- **Triad picture task**[63]:to assess whether respondents group individuals based on gender (Figure D.2). In this task, respondents are shown four different cards. Each card displays a woman at the top and two individuals at the bottom—one male and one female—who differ along dimensions such as occupation or clothing. Respondents are asked to choose which of the two figures at the bottom is "the same type of person" as the one at the top. The task is designed to reveal which attributes respondents see as most salient when categorizing others. We construct a binary measure of gender salience, equal to 1 if the respondent selects the female figure on at least two of the four cards, indicating a tendency to group based on gender.
- **Hypothetical adjudication measures within the game**: We asked each chief how they would arbitrate a set of trust-game disputes brought by either a female or a male player. Chiefs responded to the same set of hypothetical complaints for both genders, allowing us to compare arbitration behavior by complainant gender. For each complaint, we recorded: (i) the maximum number of tokens at which the chief would intervene (a proxy for the likelihood of action) and (ii) the number of tokens they would reallocate at this threshold (a proxy for leniency). From the latter metric, we construct the implied change in the return ratio implemented by the chief. These measures are used in Table C.20, Panel E.

[63]Triad picture tasks have been used in the experimental psychology and cognitive neuroscience literature to study implicit categorization (Gentner and Brem, 1999; E. and GL., 2001). Markman and Hutchinson (1984) first used them to examine how children group items based on taxonomic relations — grouping by shared category — versus thematic relations — grouping by functional association. More recently, Xu et al. (2022), use an adaptated version of this task to show that categorization patterns are shaped by individuals' cultural environments. See Mirman (2017) for a full review.

Figure D.2: Triad Picture Task



D.3 Experiment 2: Indices

Here is a more detailed explanation of the indices shown in the results of experiment 2. We divide them between survey measures and experimental measures:

Survey measures. The following indices were constructed from responses to questions in the pre-games survey and are used in Figure 14:

- Index: "Means of social punishment"
  - The Index of "F Means of social punishment" is the mean for the women in each market, of three dummies for the woman reporting they have support in case of a dispute from someone in their family, someone in the police and another business owner respectively. These questions were asked only to tailors in the markets, and we impute with the market-gender mean when it is missing.
- Index: "F Historical Female Empowerment"
  - The index of "F Historical Female Empowerment" is the mean for the women in each market, of 3 variables which relate to the woman's ethnicity's historical gender norms and are coded from -1 to 1. The first variable takes -1 if the woman's ethnicity is historically patrilineal, and 1 if it is matrilineal. The second variable takes -1 if the woman's ethnicity is historically patrilocal, and 1 if it is matrilocal. The third variable takes -1 if men participate "more" or "appreciably more" in agriculture, and 1 if women participate "more" or "appreciably more". These 3 variables are constructed using Murdock's ethnographic Atlas.
- Index: "Correct expectations"
  - The index for "F Correct expectations" is built using questions from both the chief and the marketeer survey. Some questions were asked to the chief. Marketeers were presented with the same questions and asked to guess how the chief answered. The index for "F Correct expectations" is the mean for the women in the market of dummies for having correctly guessed which type of rules the chief uses (either predetermined and public, predetermined and private, or subjective on a case-by-case basis), and who the chief would arbitrate in favor of in a hypothetical collaboration dispute scenario between a man and a woman (either in favor of the woman, in favor of the man, by letting them solve things by themselves, by resorting to an institution).

Experimental measures. The following measures or indices were constructed from the trust game. These measures are used in Table C.20, Panel D.

- Preferences for having gender revealed to the chief
  - After knowing their random treatment assignment, participants are askedAfter knowing their random treatment assignment, participants are asked: "Which form were you hoping to get: the one where the chief would know you are a business man/woman or the one where he would not know? Did you have any preference?". We text code all the answers using two treatment-blind research assistance to distinguish between: i) Preference for blindness (blue form), ii) Preference for revelation (red form), iii) No preference.
- Incentivized beliefs on chief behavior

– At the end of the experiment, we elicited incentivized beliefs about the chief's choices when s/he has to arbitrate complaints coming from men or women. The assignment of complaints brought by men or women was randomized between subjects, stratifying by the main strata and treatment assignment (as described in Appendix B.2). For each complaint, we recorded participants' beliefs on: (i) the maximum number of tokens at which the chief would intervene (a proxy for the likelihood of action) and (ii) the number of tokens they would reallocate at this threshold (a proxy for leniency). We incentivized answers by matching responses with the chief's answers from their own survey.

Online Appendix - Survey Measures and Games Behavior

In this Appendix we show that our survey measures of trust are correlated with trustworthiness, as shown in previous research (Glaeser et al., 2000). Moreover, the survey cooperation measures are correlated with the number of tokens sent by the investors.

Table D.1: Trust Survey Measures and Behavior as Investor

	Tokens Sent			
	(1)	(2)	(3)	(4)
Lent	0.256	0.545**		
	(0.232)	(0.240)		
Gave Advice	1.124***	0.942***		
	(0.346)	(0.356)		
Joint buys	-0.0555	-0.0329		
	(0.214)	(0.230)		
Shared Order	-0.420*	-0.421*		
	(0.241)	(0.253)		
Average Cooperation			0.278	0.497
			(0.339)	(0.377)
Observations	474	474	474	474
Adjusted R^2	0.017	0.041	-0.001	0.023
Mean Dep Var	3.97	3.97	3.97	3.97
Industry FE		✓		✓
Market FE		✓		✓

This table shows correlations between survey measures of cooperation between businesses and the number of tokens that investors send to their partners. The dependent variable is the number of tokens sent by the Investor to the Trustee. The mean of the dependent variable is 3.97 and its standard deviation is 2.21. The variables "Joint Buys", "Lent", "Gave advice" and "Shared Order" are indicator variables that indicate whether a person ever engaged in the relevant activity. The variable "Average Cooperation" is an index of cooperative behavior, calculated as a simple average of the four dummies "Joint Buy", "Lent", "Advice" and "Shared Order". Robust standard errors in parentheses. Robust standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table D.2: Trust Survey Measures and Behavior as Trustee

	Average Return Ratio	
	(1)	(2)
Trust in Strangers	0.0341**	0.0300*
	(0.0173)	(0.0180)
Trust in Neighbors	0.0182	0.0104
	(0.0119)	(0.0125)
Trust GSS	0.0207	0.0248
	(0.0142)	(0.0171)
Observations	476	476
Adjusted R^2	0.014	0.006
Mean Dep Var	.44	.44
Industry FE		✓
Market FE		✓

This table shows correlations between survey measures of trust and the ratio of tokens sent by the Trustee to the number of tokens that the Trustee could have sent (average return ratio). The dependent variable is the number of tokens sent by the Investor to the Trustee. The mean of the dependent variable is 0.44 and its standard deviation is 0.14. The variables "Trust in Strangers" and "Trust in Neighbors" are measured on a scale from 1-4, and have been converted into dummy variables by combining low scores (1 and 2) and high scores (3 and 4). Low scores were given a value of 0, and high scores a value of 1. The variable "Trust GSS" is a dummy measuring whether most people can be trusted or not: a value of 1 indicates that "most people can be trusted", and a value of 0 indicates that "you cannot be too careful in dealing with people". Robust standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01