# How Market Access Shapes Wellbeing and Values: Experimental Evidence from the D.R. Congo

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**Abstract**

Classical liberals argue that the expansion of market access promoted prosociality, hard work, and thrift, while according to more critical schools of thought, markets ushered in a more self-interested, secular, and unsatisfied homo economicus. We examine these ideas in a field experiment involving 4,200 individuals across 300 Congolese villages that provided free motorcycle transportation to the largest urban market in the province one day per week for six months. Market access increased household income by 15% nine months after the intervention by facilitating enduring connections to urban traders and stimulating trade in cash crops. However, it eroded subjective wellbeing on average and made participants feel further away from their desired income, likely by generating within-village inequality and altering the reference points of market "losers." Market access also had a secularizing effect: participants viewed religious faith as a less important value and a weaker determinant of success in life. Instead, they believed more in their own agency and in the value of hard work, productivity, education, income, and saving. An urban placebo treatment arm helps attribute these effects to market access, separate from exposure to the city and urban social networks more generally.

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# 1 Introduction

Urban markets have long been viewed as a key nexus in the process of economic development. They feature prominently in economic histories of the ancient world (e.g., entrepôts like Piraeus and Carthage), the Medieval period (e.g., fairs like that in Bruges and Champagne), and the early modern period (e.g., market cities like Venice and Amsterdam — or, in the African context, Timbuktu and Mombasa). By connecting local and regional trade networks, urban markets help households shift from producing for subsistence to producing for exchange (Smith, 1937; Braudel, 1949).[1] This shift is thought to raise household incomes, consumption levels, and product variety. It is also thought to increase inequality, fueling an urban-rural divide, especially in the presence of 'winner-take-all' market size effects (Schumpeter, 1942; Kuznets, 2019).

Alongside these economic effects, social theorists have argued that the expansion of markets reshaped the values and perceived wellbeing of populations exposed to them (Hirschman, 1982). On the one hand, thinkers like Montesquieu, Smith, and Hume advanced the *doux-commerce view*: that markets promote prosociality and "bourgeois values" like hard work, saving, and open-mindedness.[2] "Commerce changes the manners of men," Hume (1752) wrote. "It renders them more industrious, more frugal, more liberal." On the other hand, thinkers like Rousseau, Marx, and Durkheim advanced a more critical *homo economicus view*: that markets promote selfish materialism, erode religious ties and traditional communities, and fuel a sense of individual alienation. Market society "drowned the most heavenly ecstasies of religious fervour... in the icy water of egotistical calculation," wrote Marx and Engels (1848).[3]

This paper investigates the causal effects of access to urban markets in a rural developing society today. We study a field experiment providing transportation to a large urban market in rural Democratic Republic of the Congo (DRC). In 100 randomly selected villages around the city of Kananga (population 1.6 million), a local NGO provided free motorcycle transportation to the largest market in the province one day per week for six months. Three randomly selected households from each selected village

[1] Urban market density is further thought to facilitate knowledge spillovers and technology diffusion (Lucas, 1988).

[2] Following Schumpeter (1942), we use the term "bourgeois values" to refer to a set of values he associated with the bourgeoisie, such as personal responsibility, self-reliance, work ethic, thrift, integrity, and moderation.

[3] Although these classic arguments were often made about markets generally, rather than urban markets per se, the examples discussed in the texts focus chiefly on urban markets.

were invited to bring goods to sell in the market and then return the same day with the proceeds and any purchased items. The treatment thus impacts participants both (*i*) as a seller, in which they interact with more customers in markets with higher prices for agricultural produce, and (*ii*) as a consumer, in which they have access to more product varieties and lower prices for manufactured goods. We compare these 600 individuals in this *market treatment* arm with 600 comparable individuals in 100 *pure control* villages who did not receive free transportation to the city. Motivated by the aforementioned theories, our primary outcomes include income, wellbeing, values (e.g., diligence, thrift, religiosity, etc), prosociality, and locus of control.

To help isolate the impact of the urban market from urban exposure more broadly, we also compare the market participants with individuals in 100 *church treatment* villages. In these villages, randomly sampled households were offered transportation to Kananga along with an invitation to attend Sunday services at one of the city's largest 30 churches each week for six months. In Kananga, as in most sub-Saharan African cities, churches are a vibrant hub of social interaction, with new members joining (and others leaving) frequently. We use the church treatment group as an "urban placebo" to help distinguish the effects of exposure to urban mores and social networks from the effects of urban market access per se.

To measure outcomes, an independent team of enumerators conducted a baseline survey before the transportation program and an endline survey 6-12 months after it concluded. These enumerators sampled the 1,800 main respondents as well as another 1,800 of their friends ("network respondents") and 600 non-network respondents — a total sample of 4,200 individuals across the 300 villages. We also have access to data from the transportation program on attendance, sales and purchases in the market, and experiences at church.

Participation rates were high in both treatment arms, with over 98% and 95% of invited individuals attending at least once in the market and church treatments, respectively. Of the total possible 26 trips offered to each participant — one trip per week for six months — 92% were taken up in the market treatment, and 84% were taken up in the church treatment. These participation rates create a strong "first stage": an average intensive-margin increase of 23 and 21 trips to Kananga in the market and church treatment, respectively. Put differently, while the median control respondent went to the city roughly every other month during the study period, treated

respondents went almost every week.[4] During the program, participants in the market arm experienced a 95% increase in reported market sales, up from an average of roughly $20 of sales income at baseline. They also reported high levels of satisfaction with the program in both arms during the six months of the intervention.

We begin with the economic impacts of the program nine months after its conclusion. Market participants reported total household monthly earnings that were 16% or 0.2 SDs higher than control participants. Church participants' earnings, by contrast, were not statistically different from control, and the earnings difference between market and church participants was 0.14 SDs ($p = 0.056$). Not surprisingly, this total earnings increase stems from higher sales income (by 0.19 SDs). Participants did not make more trips to Kananga themselves, but they were more likely to have trading partners there. Moreover, market participants were more likely to report selling palm oil and coffee, two of the most profitable crops as rural vendors in Kananga, according to the transportation program data. In sum, the market treatment appears to have caused a persistent increase in income by allowing villagers a chance to form commercial relationships in the city through which they continue to sell profitable cash crops. We detect no impacts on employment, asset ownership, or labor time.

How does the program shape the wellbeing of its participants? To measure subjective wellbeing, we rely on the Self-Reporting Questionnaire (SRQ-20), a WHO-validated 20-question survey module for measuring mental wellbeing and depression. According to this measure, we find evidence that the market treatment in fact eroded subjective wellbeing on average. Using a standard 10-out-of-20 cutoff, the market treatment increased the probability of depression among participants by 5.6 percentage points.[5] Quantile regression estimates indicate that the treatment effect is concentrated in the upper quartiles of the SRQ-20 score distribution — i.e., among participants with worse mental wellbeing.

We examine four possible explanations for this decrease in average subjective well-being: (*i*) greater responsibility and redistributive pressure from the income effect fueling stress; (*ii*) greater stress from the hustle and bustle or the income volatility of commercial work; (*iii*) greater inequality and social comparisons to new reference groups in the village or the city creating jealousy; and (*iv*) wistful regret for a period

[4]The villages in our sampling frame are all within a 4-hour motorcycle ride of Kananga, and most respondents already make several trips to the city each year. The treatment is thus an intensive-margin shock in urban access rather than an extensive-margin first exposure to the city.

[5]The corresponding effect for the church treatment is 4.6 percentage points, but it is not statistically significant.

of good fortune that subsequently ended. The evidence is most consistent with the inequality mechanism. Subjective wellbeing notably declined in villages where income inequality increased from baseline to endline among market participants. Moreover, market participants who fell in their relative income rank compared to other participants in the village had worse subjective wellbeing. Friends of market participants also experienced lower wellbeing. Each of these observations is consistent with the idea that higher incomes of the "winners" of the market access program fueled jealousy among the "losers" (as well as others in the village), leading to decreases in average subjective wellbeing.

Another key dimension of wellbeing is perceived need: how much money do you believe you need to be happy? Rousseau (1752) argued that market society raised consumption yet simultaneously multiplied the number of perceived "needs" — thereby paradoxically making people *feel* worse off. When we asked participants how much income they need to be happy, market participants reported amounts on average 15% higher (or 0.14 SDs) than the control group. This could reflect the income effect if market participants simply adjusted their income goal proportionally. We thus computed the gap between their target income for happiness and current income, providing a measure of how far they feel from their target income. Using this measure, we still observe a 14% increase in the market arm. That is, despite their income gains, market participants still felt further from the amount of money needed to be happy, as compared to the control.[6] This treatment effect is more pronounced in market villages that experienced larger increases in income variance among participants. This is, again, consistent with an inequality story: the market intervention appears to have shifted the reference point for most participants, making them feel relatively worse off.

We then investigate how market access shaped participants' core values: e.g., the components of a good life, the qualities of a good person, and the most important values to inculcate in children. Across a broad set of questions and measurement techniques, we observe a consistent erosion of religious values toward bourgeois values — e.g., the importance of income, education, hard work, productivity, and saving. Religion remains the top value, but declines in relative ranking by 0.19 SDs to 0.26 SDs depending on the measure. We do not observe the same pattern in the church arm, and the difference between market and church is statistically significant in most compar-

[6]The estimated treatment effect for church participants (6.5 log points) is not statistically significant. The market-church difference is about 9 log points, though this difference is not quite significant at conventional levels (p=0.18).

isons. Given the well-known negative correlation between income and religiosity (Barro and McCleary, 2003), a natural explanation for this secularizing impact of market access is the income effect. However, there is no relationship between endline income (or the change in income between baseline and endline) and the observed importance of religion as a core value in the market arm. Instead, market participants appear to believe they will achieve higher incomes in the future, and their values correspondingly adjust to adapt and reinforce the lives they imagine leading.

Across a range of dictator games, there is no increase in average prosociality or moral universalism among market participants, against the predictions of the doux commerce theory. In fact, market participants give significantly less to certain groups — namely, Christians, members of one's own denomination, and members of one's own church. Market participants also expect less from other Christians in the "choose your dictator" game. Alongside the secularizing effect of markets on core values, the behavioral game evidence suggests an erosion of religious ties.

Finally, we examine psychological outcomes. Market participants have greater locus of control and grit, but no higher resilience, optimism, or self-control. When asked to enumerate the forces that determine success in the private and work spheres, they again shift from "god" to "self," "luck," and "friends." This shift is again consistent with a more secular world view, in which individuals believe they are more in control of their own success; their social network and luck are also more important.

In sum, our evidence is more consistent with the homo economicus theory of markets and their impact on wellbeing and values. Despite increasing incomes, market access undermines subjective wellbeing on average and makes participants feel further away from their desired income — likely by generating within-village inequality and altering the reference points of market "losers." Market access also has the anticipated secularizing effect: participants view god and religion as less important in their lives and a weaker determinant of success in life; they are also less generous (and more skeptical) toward members of their religious community.[7] Although market participants are not more selfish on average in behavioral games, they do believe more in their own agency and in the importance of hard work.[8]

We first contribute to the literature on how markets shape values and prosociality.

[7]The doux-commerce theory did not anticipate a secularizing effect of markets, only an impact on tolerance and religious open-mindedness.

[8]Both theories overlap in their prediction that access to markets would inculcate bourgeois values like the importance of hard work, income, productivity, and saving.

A lab experimental literature has illustrated that markets make people more likely to impose negative externalities on others (e.g., Falk and Szech, 2013; Bartling et al., 2023), and that market competition can shape honesty, views about morality, and trust (e.g., Benistant et al., 2022; Chen and Reinhart, 2024; Choi and Storr, 2020). There is also an emerging literature on the subject beyond the lab. Henrich et al. (2001) find that market integration is positively associated with prosociality across fifteen small-scale societies around the globe. Enke (2023) documents a robust positive correlation between market exposure, trust, and universal morality. Rustagi (2025) exploits historical variation in exposure to the livestock trade in Ethiopia and estimates that markets created demand for civic values and prosociality. We contribute to this literature by providing the first credible causal estimates from a contemporary field experiment of the impacts of market access on wellbeing and values, which are more consistent with the homo economicus view of markets.

Second, we contribute to the literature on secularization. There is a well-established negative correlation between income and religiosity (Barro and McCleary, 2003), though the causality of the relationship has been questioned (Becker and Woessmann, 2013). The quasi-experimental literature reaches mixed results: Gruber and Hungerman (2008) find that church attendance decreases after the repeal of state-level "blue laws" prohibiting retail activity of Sundays; Chen (2010) finds that households hit harder by the Indonesian financial crisis increase their engagement at Koran schools; Buser (2015) exploits a change in the eligibility threshold for a government cash transfer program in Ecuador to estimate a positive impact of income on (evangelical) church participation. We contribute to this literature by documenting the negative impact of access to urban markets — a key institution in the process of economic development (Braudel, 1949) — on the relative importance of religion in individuals' deeply held values.

Third, we contribute to the literature investigating the importance of developing welfare metrics going beyond income and consumption. While a longstanding observational literature documented a divergence between welfare metrics based only on income or consumption and broader measures (e.g., Easterlin, 1974; Sen, 1999; Layard, 2006; Jones and Klenow, 2016), a more recent literature using RCTs finds that unconditional cash transfers do not generally lead to increases in psychologically-grounded measures of wellbeing (e.g., Haushofer and Shapiro, 2018; Jaroszewicz et al., 2024; Miller et al., 2024). Our RCT instead examines the impact of market access and also finds a divergence between income and wellbeing measures. The role of inequality

among program participants as an explanatory channel is consistent with other work showing strong reference-dependent preferences in narrow reference groups (Xu et al., 2025). The importance of inequality for wellbeing has implications for optimal taxation, as shown by a theoretical literature treating individuals' incomes as a negative externality on others' welfare (e.g., Boskin and Sheshinski, 1978; Ljungqvist and Uhlig, 2000).

Finally, we make a smaller contribution to the large literature on market access and economic development. Most of the literature has focused on reductions in transport and/or trade costs (e.g., Bryan et al., 2014; Aggarwal, 2018; Donaldson, 2018; Banerjee et al., 2020a; Asher and Novosad, 2020; Brooks and Donovan, 2020; Abebe et al., 2021; Lagakos et al., 2023). Our main contribution is the existence of an urban placebo treatment to help distinguish the impact of urban markets separately from exposure to urban mores and social networks more broadly. We also have rich data to explore mechanisms, e.g., how market participants specialize in more profitable cash crops.

## 2 Setting

The study takes place in the city of Kananga, in the Kasaï Central Province of the Democratic Republic of Congo (DRC). Kananga, a city of roughly 1.6 million (the fourth largest in Congo), is the seat of the Provincial Government of Kasaï Central. Transport infrastructure in the region is in severe disrepair due to heavy rain and a lack of maintenance. Transportation in rural areas is difficult even for 4x4 vehicles. Traveling 50 kilometers out of the city can take up to 4 hours on a motorbike. But most villages are unable to afford motorbikes or other forms of transport, and so they spend days walking to reach the city, or they remain in their villages.

Our sampling frame consists of permanent villages located 10-40 kilometers outside of Kananga (Figure A1).[9] These villages have 100 households on average with a self-reported monthly income of $23 (Table A1). The vast majority (92%) of individuals work in agriculture, and only 12% have any form of salaried employment. About 8% of these villages have a market (active typically one day per week), to which residents of other villages sometimes travel to buy and sell goods. Working as a market seller is an uncommon activity in these villages: 43% of a random sample of villagers reported

[9]Given the transportation program we study, villages further from Kananga would have required too long and difficult a motorcycle ride.

any time selling goods in the past week; 5% reported more than 5 hours; and only 0.6% reported "selling" as their primary occupation.

# 3 Design

We study a transportation field experiment implemented by a local NGO called Congo Helping Hands (CHH) that has worked in Kasaï since 2004. Their City Access Program, as explained to potential participants, sought to "facilitate city access by providing transportation to Kananga for villagers in Kasaï Central." We worked with CHH to randomize these two versions of this program at the village level to facilitate an impact evaluation.

## 3.1 Interventions

### 3.1.1 Market Treatment

In the market arm of the experiment, participants were invited to receive free transportation to the central market in Kananga once per week for six months. The program occurred on Thursday, Friday, or Saturday, all active market days in Kananga. Participating households had access to an additional motorcycle on which they could transport goods to sell in the city.

How do urban markets compare to the village markets to which participants previously had access? Table A2 summarizes key differences. First, as a seller, urban markets provide access to more customers and higher prices for agricultural produce. Second, as a consumer, urban markets have many more goods available and lower prices for manufactured goods.

So that CHH's participants would reflect a trivial share of total vendors, we also randomized the market location in Kananga at the village level.

- Inside Market. In villages assigned to this sub-treatment, participants were given access to the inside section of the *grand marché*. This market is organized by product in stalls, similar to a grocery store. In this market, vendors tend to have more customers and interactions; they also had access to slightly higher prices.
- Outside Market. In villages assigned to this sub-treatment, participants were transported to *Nkashama* market, a sprawling open-air market located across the street from the *grand marché*. In this market, vendors tend to sell larger

quantities to fewer customers. Thus, it is more like a wholesale exchange.

### 3.1.2 Church Treatment

In the church arm, participants were similarly invited to receive free transportation to Kananga one day per week (Sunday) for six months, but they were invited to attend services at an urban church. Churches are the principal hub of social activity in Kananga and other urban centers in sub-Saharan Africa. During extensive piloting of the program with CHH in 2019-2020, we learned that access to urban churches was highly sought after in villages. Of all versions of the program we piloted, only the church-based version achieved as high a participation as the market.[10] The chief reason for this demand is the large and vibrant social networks to which villagers gain access: churches are where many friendships and relationships are formed. They also provide a clear source of consumption value, as urban churches have electricity, colorful paintings, skilled musicians, and upgraded sound systems.

Because CHH did not want to promote engagement at any particular church or denomination, we conducted a census of all churches in Kananga to identify the 30 largest churches for eligibility in the program.[11] The pastors of these churches were all keen to open their doors to village congregants. All participants from a given village were invited to the same church, randomly selected from the list of 30 churches, and no two villages were assigned to the same church in the same period of the program.

In Kananga (and much of sub-Saharan Africa), people change where they pray much more often than in Western societies and in club-good models of religious participation (Iannaccone, 1992). In focus groups, most participants reported praying at 2-3 different churches in the past five years. It is common to receive invitations from other churches, and people typically accept these and visit another congregation for a period of time before deciding where to continue praying.[12]

[10] Alternatives included sports, music, and dance groups, as well as transportation (without space for goods), without any clear "reason" for the invitation.

[11] These churches span the following Christian denominations: Pentecostal, Branhamist, Protestant, Neo-Apostolic, and Kimbanguist. The one missing denomination is that Catholic churches were not included in the program because their Tshiluba language services occurred too early in the morning for participants to arrive on time.

[12] Because we anticipate that this treatment might raise questions among secular Western readers, we discuss the ethics of the study in Section A9.

### 3.1.3 Pure Control

In pure control villages, participants were identified in an analogous fashion (prior to random assignment), but they only completed the baseline and endline survey without being invited to any transportation program. They could, of course, continue visiting Kananga at their own expense.

### 3.1.4 Other Program Details

Across both treatment arms, respondents were transported by the same driver each week. When they arrived in the city, they were greeted by CHH staff who recorded their attendance and, in the market arm, the goods they brought. They departed in the mid-afternoon after market activity had wound down and church services had concluded. Before leaving, CHH staff recorded information about their experiences that day, including goods sold and bought in the market arm. These CHH program data will help us more precisely characterize the treatment.

To avoid potentially swamping the markets or churches with CHH participants, the City Access Program was implemented progressively over a period of two years. In each of ten waves, CHH provided transportation to 60 market participants across 10 villages and another 60 church participants across 10 villages. These waves overlapped by two months, so that at any given point, three waves were running simultaneously. Market treatment villages each came to Kananga on a separate day (Thursday, Friday, or Saturday). Church treatment villages always came on Sundays, but they were partitioned among the thirty participating churches. Figure A2 shows the full project timeline.

## 3.2 Village Selection

To identify a set of villages eligible for the transportation program, we first identified all villages within a 3-hour drive from the city limits using satellite and driving time data. We then conducted a village census to collect basic information such as village size and accessibility (Figure A1). We worked with CHH to identify a set of 300 villages that would be eligible for their program according to the following criteria: (*i*) accessibility by motorbike, (*ii*) a population of fewer than 300 families, and (*iii*) continual settlement all year round (rather than only during harvest season). We selected the 300 villages closest to Kananga by straight line distance, but farther than 10 km from the city

center — and thus well outside the metropolitan area — that fulfilled these criteria.

## 3.3 Sampling Participants

We randomly sampled six participants in each village in two steps. Enumerators first followed a skip pattern to conduct a screening survey. Our research office then randomly selected the main respondents for the baseline survey. Importantly, CHH wanted to include women in the program and thus made the decision to sample couples.[13] We thus randomly sampled three couples — six main respondents — from all eligible individuals in the screening survey per village. Table A4 provides descriptive statistics of these respondents.

To enable estimation of spillovers, our enumerators also conducted a shorter baseline survey with additional individuals with and without connections to the main respondents. They interviewed $(i)$ one close friend of each main respondent, as revealed in a social network module, and $(ii)$ two additional randomly sampled individuals without connections to the main respondents in each village. They also interviewed the village chief. All respondents were identified prior to the village being assigned a treatment status to avoid endogenous sampling.

## 3.4 Random Assignment

We then randomly assigned villages to the treatment or control. We stratified the randomization on $(i)$ geographical region, and $(ii)$ village size. For $(i)$, we divided the villages shown in Figure A1 into ten geographic clusters of 30 villages, each corresponding to a wave of the program implementation. We used these clusters as strata to ensure the villages were nearby. We then binned villages into those above and below the median in the cluster. Finally, following Banerjee et al. (2020b), we conducted 100 randomizations and picked the one that maximized balance across a set of 15 covariates from the village census and baseline survey. Given the rolling nature of the program, we conducted the randomization of each cluster of 30 villages after the baseline survey was complete, just before the start of the interventions in that wave. In our re-randomization protocol, we append each allocation under consideration to all prior treatment assignments (for previous waves) and then take the randomization that achieves the best cumulative balance.

[13] In this setting, it is rare for a woman to travel long distances without a man.

Table A3 summarizes the number of participants across all treatment arms. There are 100 villages in each treatment and in the control. With six main respondents, six network respondents, and two pure control respondents in each village, the full sample size is 4,200.

We test balance using a range of village and baseline characteristics (Table A4). We detect no imbalanced covariates, and an omnibus test of joint orthogonality fails to reject the null.

# 4 Data

We use data from several sources.

1. Village census ($N$ = 1,384). Enumerators verified the location of villages around Kananga and recorded basic characteristics.
2. Baseline survey ($N$ = 4,493). Enumerators completed a baseline survey with all respondents prior to treatment assignment.
3. Program data on the City Access Program collected by CHH staff ($N$ = 68,414). These include daily data on attendance and other details on participation (e.g., the goods bought and sold).
4. Endline survey ($N$ = 4,303). These surveys were administered roughly 6-12 months after the conclusion of the CHH program (in treatment villages and nearby control villages).

Except for the program data, all surveys were conducted by an independent team of enumerators working for ODEKA (*L'Organisation des Études Économiques au Kasaï*), a nonprofit survey firm the PIs founded in 2015. ODEKA's objective, as explained to potential survey respondents, is to conduct academic research on "economic development and culture in Kasaï." ODEKA enumerators wore vests with the logo and clearly introduced themselves to prevent confusion with CHH staff.

# 5 Results

## 5.1 Take Up and First Stage

We begin our analysis by examining the take-up of the City Access Program and the first stage. According to CHH program data, extensive-margin participation was high

across both arms: over 98% and 95% of invited main respondents chose to come to the city at least once in the market and church treatments, respectively. Intensive-margin participation was also high. The program represented an invitation of 26 trips to the city (each week for six months). Of these total trips, 92% and 84% were taken up in the market and church arm, respectively. Figure 1 shows the distribution of program days attended by treatment. The main reasons for not traveling were illness and travel.

These participation rates translate into a strong "first stage": an average increase of 23 and 21 trips to Kananga in the market and church treatment, respectively (Figure 2). Importantly, the median control respondent also went to the city roughly every other month during the study period (consistent with baseline city travel), while treated respondents went every week. The treatment is thus an intensive-margin increase in urban access rather than the first (extensive-margin) exposure to cities of remote, autarkic communities. This intensive-margin impact differentiates the City Access Program from studies of seasonal (Bryan et al., 2014) or longer-term migrants (Yang, 2005).

To characterize the treatment, we use CHH program data on the products sold and bought, as well as sales income reported. The most commonly sold goods by market participants include palm oil, maize, cassava, charcoal, and palm nuts (Figure A3). The most profitable goods (calculated by subtracting reported input price from sale price) were goat, *tshitshampa* (a local spirit), honey, caterpillars, and smoked fish. Although weekly profits varied, market participants reported an average increase in gross sales income of 95%, up from an average of roughly $20 reported at baseline (Figure 3). As buyers, the goods in greatest demand among villagers at the urban market included clothes, meat, kitchenware, and medicines (Figure A4). Market participants' experience varied by whether they were randomly assigned to the inside or outside market (Table A5). Inside market participants sold to more customers at somewhat higher prices (not significant) to achieve higher total earnings, but bought fewer total products (compared to outside market participants). Consistent with their revealed preference (high participation rates), 98% of market and church participants reported being "very satisfied" or "satisfied" during the program (Figure A5).

In sum, the City Access Program generated exogenous variation in access to urban markets and churches that we can use to investigate its impacts on participants' wellbeing and values.

## 5.2 Estimation

To identify causal effects, we estimate the following equation using OLS:

$$Y_{ihvs} = \beta_0 + \beta_1 \mathbb{1}_{vs}^{Church} + \beta_2 \mathbb{1}_{vs}^{Market} + \alpha_s + \boldsymbol{X}_{ihvs}\boldsymbol{\Gamma} + \epsilon_{ihvs} \quad (1)$$

where $i$ indexes individuals, $h$ households, $v$ villages, and $s$ randomization strata.[14] The $\alpha_s$ are stratum FE (20 in total — a function of geographic region and village size). $\boldsymbol{X}_{ihvs}$ includes individual-level baseline covariates. Specifically, whenever we have baseline $Y_{ihvs}$, we control for it. To improve precision, we additionally include age, age squared, sex, house quality, years of education, household size, nights hungry in the past month, a dummy for majority ethnicity, a dummy for being born in the village, a dummy for having lived in the city, the log number of family members in the city, and a dummy for being an evangelical Christian. In the appendix, we show robustness to omitting these controls. We cluster standard errors at the village level (300 total).[15]

We consider four families of outcomes: economic effects, perceived wellbeing, values, and psychology. Unless otherwise noted, all outcomes are drawn from the endline survey that occurs on average 9 months after the conclusion of the program.

## 5.3 Economic Effects

To capture the economic impact of access to urban markets, we estimate Equation 1 with OLS with total monthly income, a formal employment dummy, a house quality index, and an assets index as outcomes (Table 1). We find a 0.2 SD (or 16%) impact of the market treatment on total household monthly income and no impacts on formal employment, house quality, or assets. The impact on income is robust to varying the controls and using a log or IHS transformation (Table A7). It is more pronounced for market respondents assigned to the outside market arm (Table A6). It is also more pronounced for men. The increase occurs primarily in the upper two-thirds of the income distribution (Figure A6). The coefficient on the market treatment dummy is 0.14 SDs larger than the (insignificant) positive coefficient on the church dummy, a significant difference ($p$=0.056). This suggests that the income effect reflects urban

[14] For simplicity, we focus on the intent-to-treat effect. Given the high participation rates, the local average treatment effect is very similar.

[15] This is more conservative than clustering standard errors at the couple level. Multilevel clustering at the household and village level gives almost identical results to clustering at the village level.

market access rather than urban access more generally.

Why do market participants still have higher incomes nine months after the city access program ended? This increase stems primarily from higher sales income, which is also higher in the market group by 0.16 SDs compared to the control (Table A8). Market participants report a marginally significant increase in continuing to sell goods in the city (Table A9, Column 1). They are also more likely to report selling through trade partners in Kananga (Table A9, Column 3). The effect on selling in Kananga is slightly larger in the inside market treatment, while the effect on selling through trade partners is slightly larger in the outside market treatment (Table A9, Columns 2 and 4)). Although only suggestive, this heterogeneity is consistent with the idea that the inside market afforded more chances to become an established urban seller, while the outside market treatment led participants to form more connections with resellers. Market participants also seem to have learned which products are more profitable to sell in the city. They are more likely to sell cash crops like palm oil and coffee, which are in the top ventile and decile of profitability, respectively (Figure A10).

## 5.4 Wellbeing

Market participants appear economically better off than their counterparts in control. But do they *feel* better off? To provide evidence, we study the Self-Reporting Questionnaire (SRQ-20), a 20-question survey module developed by the WHO for measuring mental wellbeing and depression. The module covers physical wellbeing, e.g., "do you often have headaches?" and "do you sleep badly?"; emotional wellbeing, e.g., "do you feel unhappy?" and "do you feel that you are a worthless person?"; and functional wellbeing, e.g., "do you find it difficult to make decisions?" and "are you unable to play a useful part in life?" All questions are "yes" or "no," allowing the researcher to sum the answers to have a raw score out of 20. Although the exact threshold varies by context, researchers often use a score greater than 10 to indicate evidence of depression. As we are unaware of past work validating the threshold in our setting, for completeness, we show results using the raw score, a dummy for scores over 10, and also quantile treatment effects.

According to the SRQ-20, there is evidence that the market treatment eroded subjective wellbeing on average (Table 2). Using the raw score as an outcome, the coefficient on the market dummy is positive (suggesting worse perceived wellbeing) but not significant (Column 1). However, using the 10-out-of-20 cutoff, the market treatment

increased the probability of depression among participants by 5.6 percentage points (Column 2). Quantile regression estimates reveal that the treatment effect is concentrated in the upper quartiles of the SRQ-20 score distribution (Columns 3–6) — i.e., among participants with worse mental wellbeing. We observe similar but slightly weaker effects in the church treatment, and the differences between the market and church arms are never statistically significant.

We consider four potential mechanisms through which the market arm might have undermined subjective wellbeing on average. First, the *income effect* generated by the market arm may have created more responsibility and redistributive pressure on participants, fueling stress. However, positive income shocks within the market arm are associated with improvements in perceived wellbeing from baseline to endline (Figure A7). In other words, the participants who gained the most income from market access are not the ones who report lower subjective wellbeing.

A second potential mechanism is that market participants found it *stressful to engage in commerce*. However, in line with the high satisfaction levels reported during the program, endline market participants also reported commercial work as easier (by 0.21 SDs) and more satisfying (by 0.24 SDs) (Table A11). There were no comparable increases for church participants or when asking about agricultural work. Another potential source of stress is the volatility in income from commerce week to week (visible in Figure 3). However, greater individual-level variance in weekly income during the market access program is, if anything, associated with improvements in wellbeing (Table A8). It does not appear that the stress or income volatility of commercial work is driving the erosion of subjective wellbeing.

Third, markets invariably benefit some more than others, fueling *inequality*. Could lower subjective wellbeing among participants reflect jealousy and social comparisons to different reference groups? There are two potential new reference groups created by the program. First, market participants could compare themselves to other participants in the program, some of whom may have benefited more from market sales. To assess if comparisons to other participants could fuel jealousy and discontent, we examine if greater income inequality among the set of market program participants within a village is correlated with worsening feelings of wellbeing (Table A12). Indeed, the market arm greatly increases income variance (relative to control or the church arm) within the set of participants (Columns 1–2), and this increase is associated with lower subjective wellbeing (Columns 3-4). Specifically, market arm villages that experienced

an increase in income variance from baseline to endline experience a 1.2-point worsening of subjective wellbeing. Interestingly, the relationship between greater income variance and worse wellbeing only appears in the market arm: the slope becomes negative in control and the church treatment (Figure 4). This provides some evidence that different mechanisms may explain the effects on wellbeing in the market and church arms.

There is also evidence that the increase in inequality fuels social comparisons and jealousy. If we rank all main respondents by their baseline and endline income, we can examine how individuals feel when they move up or move down relative to others. There is a strong negative relationship between the change in an individual's rank in the village and the change in their perceived wellbeing (Figure A9). This relationship flattens, but the slope remains negative and significant even when you control for the change in income. That is, even holding constant changes in income levels, the relative ranking vis-a-vis others in the village appears to co-move with perceived wellbeing. A further piece of evidence about the role of jealousy comes from examining the friends of the main respondents (i.e., our "network" respondents). We estimate heterogeneous treatment effects by respondent type (Table A13). The friends of market participants also experience a deterioration in their perceived wellbeing (Column 2). There is no similar effect among non-network respondents or among the friends of church respondents. This pattern of results is consistent with jealousy among the friends of market respondents fueling declines in wellbeing.

The other potential reference group is city dwellers, many of whom are likely richer than the village participants. Do participants in the City Access Program across both treatment arms feel worse because they now compare themselves to city folk? We cannot test this possibility well in the market arm because we do not know exactly which market participants interacted with in the city. However, we do have data on the other congregants of the churches that village participants attended. We examine whether church participants have worse perceived wellbeing when they were randomly assigned to a relatively more affluent religious community. There is no clear heterogeneity when we compare the effect of being assigned to congregations with greater wealth, education, or income (Table A14). This provides some evidence against the possibility that comparisons to city dwellers are fueling the observed declines in wellbeing.

A final *lost fortune* potential mechanism is that City Access Program participants may look back at a time in which they had higher incomes and feel relatively worse at endline as a result. Although many development programs bring temporary benefits,

the perceived loss of good fortune could conceivably explain the decline in subjective wellbeing. To test this, we examine whether market participants whose incomes declined more after the end of the program experience greater erosion in wellbeing (Table A15). We first confirm that there is a meaningful correlation between market earnings (during the program) and endline income (Column 1) as well as better endline subjective wellbeing (Column 2). Moreover, those who experienced a relatively larger change in their income from baseline to the market program period have better, not worse, subjective wellbeing at endline (Column 3). Finally, there is no clear relationship between wellbeing and the change in income from the program period to endline (Column 4). Among those whose weekly income decreased in this period, there is a small positive coefficient that is not close to being statistically significant (Column 5). Figure A10 visualizes the insignificant relationship between changes in earnings from the market program to endline and wellbeing. There is little evidence, then, of a "lost fortune" mechanism.

In sum, the evidence is most consistent with an inequality mechanism in which market participants compared themselves with other "winners" of the program and feel frustrated that they did not manage to benefit as much.

### 5.4.1 Money Needed to be Happy

To further probe the implications of market access on perceived wellbeing, we take inspiration from Rousseau's famous argument that modern market society makes people feel they need more to achieve material wellbeing.[16] In the endline, we asked respondents 'In general, how much money per month does your family need to be happy?" Market participants respond that they need 0.15 SDs more income than control respondents (Table 3, Column 2). The church treatment has no statistically significant effects, and the gap between market and church is substantial (0.09 SDs), although not significant at conventional levels ($p$=0.18). The market treatment effect could, of course, be explained by the fact that market participants have more income now: they may adjust their answer up proportionally. To assess this, we compute how far they feel they are from their target income by subtracting their current income from the money they think they need to be happy. Despite their income gains, market participants feel

[16]"Since these conveniences by becoming habitual had almost entirely ceased to be enjoyable, and at the same time degenerated into true needs," he writes, "it became much more cruel to be deprived of them than to possess them was sweet, and men were unhappy to lose them without being happy to possess them" (Rousseau, 1752).

0.14 SDs further from their target income than control respondents (Table 3, Column 3).

A first possible explanation for why the market access program increases the money its participants feel they need to be happy is the "hedonic treadmill": earning more makes them want even more. While there is a positive correlation between the income participants make and the money they believe they need to be happy, the slope is the same between the market and control (Figure A11). A second explanation is inequality and social comparisons. By observing others (in the village or the city) with greater means, participants may come to view the consumption of new goods as "needs" without which they cannot be happy. We find some evidence consistent with this view: in the market arm, there is a positive relationship between the change in income variance in a village and the amount of money viewed as necessary to be happy (marginally significant) (Table A16).

## 5.5 Values and Prosociality

We now turn to the ways in which market access shaped the deeply held values and social preferences of the market participants. We begin by examining a series of questions designed to elicit core values: "what are the components of a good life?" and "what are the qualities of a good person?" For both of these questions, we did extensive qualitative work with focus groups to generate a list of categories and a visual representation of each (Figure A12).[17] Enumerators then used laminated sheets as visual aids, partitioning the space in each of the categories. Respondents were asked to allocate ten buttons into the different categories according to their conception of a good life and a good person. They could put all their buttons on one category or spread them out, depending on their preferences. We designed these activities in this way to encourage respondents to think hard about the questions. Having a budget constraint (ten buttons) also nudged them to choose between the relative importance of competing values. We similarly elicited the World Values Survey question about which values they think children should be encouraged to learn at home, but following the similar logic, required respondents to first pick five values and then rank them in

[17]For examine, the categories for the "components of the good life" included: having a large and loving family, having a long life without illness or injury, living in a peaceful and harmonious community, having the possibility of pursuing advanced study, being close to god and belonging to an active church, having a job where I make steady income, and being close to one's ancestors and honoring their traditions.

order of importance.

Using this measure we observe a consistent reduction in the importance of religion and god — and a corresponding shift toward "bourgeois values," including income, education, productivity, hard work, and saving. Figures A13, A14, and A15 show the raw distributions at endline across treatments. Although religion/religiosity tends to remain the most important value, its relative importance drops substantially in the market arm across all three exercises. In fact, at endline, religion is surpassed by family in the market arm. The negative treatment effect on religion is substantial in magnitude, ranging from 0.19 SD for child values to 0.25 for the good person (Tables A17, A18, and A19). Across these different measures, respondents shift toward various bourgeois values. In the good life exercise, for instance, men shift to education, and women shift toward income.[18] In the good person exercise, men shift toward productivity and thrift, while women shift toward diligence and thrift. In the child values exercise, men shift toward thrift, while women shift toward generosity. We do not observe similar patterns in the church treatment arm, suggesting this revision of values occurs because of participants' experiences in the urban market specifically.[19]

Does the relative decline in the importance of religious values translate into lower engagement in church? It is not obvious that it would, given that religion remains an important value for most respondents. The results are mixed. In survey questions about religious participation from Koenig et al. (1988), men report less engagement in peripheral church activities, such as bible study groups, while women report less private prayer (Table A21). However, there is no impact on an index across all types of religious participation (Table A20). Using standard modules from Allport and Ross (1967), we also observe no change in self-reported intrinsic religiosity, e.g., the sense of god's presence in one's life (Table A22). We do, however, find an increase in reported extrinsic reasons for church participation, e.g., being with friends and having social insurance during difficult times (Table A23). Admitting that you attend church for the social network it provides is, in this deeply religious context, consistent with a more secular view of the importance of church. Interestingly, we also find that market participants view god as more likely to punish people, especially for laziness and the use of witchcraft. In the Congolese context, the witchcraft result likely reflects the fact

[18] Some respondents also shift toward tradition, but this is a comparatively small effect that is significant because it is a very rare choice.

[19] The church arm does appear to cause an increase in the perceived importance of tolerance in the meaning of a good person, though there is no (detectable) corresponding increase for child values.

that in the commercial domain, witchcraft is often viewed as a perverse way to get rich quickly at the expense of others.[20] These views of divine punishment thus mimic the bourgeois values market participants shift to in the core value questions: god appears more like a policeman ensuring diligence and fair play at work.

Given the well-known negative association between income and religion (Barro and McCleary, 2003), one might expect the value shifts we observe to move in tandem with the income effect from the market treatment. However, in the market arm, there is only a weak and insignificant negative association between endline income and the number of buttons respondents placed on religion in the good life exercise (Figure A16). More strikingly, the relationship between changes in income and changes in buttons on religion is, if anything, positive (though again the slope is not statistically significant). It does not appear that the positive income shocks enjoyed by many market participants explain the declines in the relative importance of religion.

The evidence is more consistent with a socialization mechanism: market participants interacted with city dwellers in the market who tend to hold less religious and more bourgeois values. We illustrate this by comparing the results from the same good life exercise for our market participants at baseline with the values chosen by buyers and sellers in the Kananga markets. Although the overall distribution remains similar, the city market respondents do tend to place relatively fewer buttons on religion and relatively more on bourgeois values — similar to the direction of the treatment effects we observed for market participants. Over the course of the six months of the program, these values likely rubbed off on market participants thanks to conversations and transactions with their city market counterparts.

### 5.5.1 Prosociality

While the *doux commerce* theory expects market access to promote generosity to others, the *homo economicus* theory expects that markets would make people more selfish. We examine these hypotheses in the context of the Dictator Game (DG). Participants played twelve iterations of the DG, in which they chose how much to allocate of 1,000 CF to another party, which varied based on the iteration.[21] The DG allows us to

[20] One frequently hears rumors that business owners who have succeeded only did so by using witchcraft in the back of their shop. See also Bergeron et al. (2024).

[21] These iterations included nuclear family member, extended family member, person in Kananga, person in village, Christian, non-Christian, member of own tribe, member of other tribe, member of own denomination, member of other denomination, member of own church, and person who does not

measure altruism overall and toward each specific other party. It also allows us to measure moral universalism, following Enke (2023): i.e., the gap between different in- and out-groups, such as nuclear versus extended family.[22] Respondents also played a version of the Choose Your Dictator Game (CYDG) in which respondents ranked these same other parties in the order in which they would prefer to have them play a dictator game with the respondent at the receiving end. This game provides a measure of respondents' beliefs about these other parties' altruism toward them.

Across all other parties, there is a negative but insignificant coefficient on the market arm indicator in the DG (Table 5). The market does not appear to have ushered in large average impacts on altruism. However, we observe a consistent decrease in altruism toward members of the religious in-group: market participants give less to Christians (-25 CF), to members of their own denomination (-17 CF), and to members of their own church (-33 CF). We similarly observe that market participants rank Christians lower than control participants in the CYDG, and the coefficients on own denomination and own church are negative but not significant (Table A24). Using the five pairings of in- and out-group covered by our other parties, we observe no average change in moral universalism. In sum, echoing the lower relative importance of religious values, market participants appear less willing to share resources with their religious communities and to expect less in return.

## 5.6 Psychology

In this final section, we examine whether the market access program shifted participants' psychological traits: their locus of control, grit, optimism, resilience, and self-control. For each of these traits, we elicit agreement between two opposing viewpoints, derived from questions in the psychology literature.[23] For example, to investigate locus of control, we ask respondents to indicate whether they think "Most of the success or failure in people's lives result from their choices" or "from forces beyond their control." Market participants are more likely to agree with the first statement by 0.17 SDs, indicative of a stronger locus of control (Table 6). They also appear to exhibit more

go to any church. They were informed that one of these iterations would be randomly selected by the tablet and paid out.

[22]The other pairs we have include person in the village versus person in Kananga, member of own tribe versus other tribe, person who is Christian versus a person who is non-Christian, and person from own denomination versus from other denomination.

[23]We have found that this enumeration technique generates more precise answers in this context (Bergeron et al., 2024).

grit (by 0.13 SDs) compared to control respondents.[24] We find no treatment effects on optimism, self-control, or resilience.[25] The difference between results on grit and resilience may be explained by the fact that the grit questions concern work, while the resilience questions are more general.

To unpack locus of control further in different domains of life, we then asked respondents to conduct two additional button-allocation exercises, again based on extensive qualitative work. In the first, they allocated ten buttons according to the forces that they believe shape "happiness and harmony in your marriage and family."[26] In the second, they instead indicated the forces that shape "the choice of work and the amount of income that you have today." In both of these exercises, "god" was again the top category (Figure A17). However, in the market arm, respondents shifted away from "god" toward "self" for marriage/family and toward "friends" and "luck" in work/income (Table 7). Consistent with an enhanced locus of control, market access leaves participants feeling more agency in their personal lives and more reliance on their social network in their work lives.

# 6 Conclusion

This paper studied a field experiment providing free transportation to urban markets to provide evidence about the ways in which market access shapes wellbeing and values. Our analysis was motivated by the *doux commerce* and *homo economicus* theories.

In contrast to past observational and lab-experimental work (Henrich et al., 2001; Enke, 2023; Rustagi, 2025), our evidence is ultimately more consistent with the homo

[24]For grit, we had two sets of viewpoints that we combined into a single index increasing in grit. The first set is: "In the pursuit of my goals, I often get discouraged when I encounter setbacks" versus "in the pursuit of my goals, setbacks don't discourage me." The second set is: "I finish whatever projects I begin no matter how long they take" versus "I sometimes have trouble finishing projects that take more than a few months."

[25]The corresponding questions for these three traits are as follows. Optimism: "In uncertain times in my life, I usually expect the worst outcome" versus "In uncertain times, I usually expect the best." Self-control: "I have a hard time breaking bad habits" versus "Breaking bad habits is no problem at all for me." and "I can always resist temptation" versus "I sometimes have a hard time resisting temptation." Resilience: "When bad things happen in my life, I know I will be able to endure and find my way again soon" versus "When bad things happen in my life, I often wonder how I will ever recover and find my way." and "I am usually not bothered by stressful events" versus "I have a hard time coping with stressful events."

[26]The full prompt was "Now I want to talk about the forces that shape our lives. Please allocate these buttons according to the forces that were most important in shaping your life. What determines the happiness and harmony you experience in your marriage and in your family?"

economicus view. Despite its positive impact on incomes, market access undermined subjective wellbeing on average and led participants to feel further away from their desired income. We provided evidence that the mechanism behind this result may stem from within-village inequality and the way the market access program shifted the reference points of market "losers." Market access also has the anticipated secularizing effect: participants view god and religion as relatively less important in their lives and a weaker determinant of success in life; they are also less altruistic toward members of their religious community (and expect less altruism in return). Although market participants are not more selfish on average in behavioral games, they do believe more in their own agency and in the importance of hard work.

An important implication of our findings is that markets cannot be regarded as value-neutral institutions. Standard welfare analysis typically assumes that individual preferences are fixed and exogenous. But we provide strong evidence that access to markets has a causal role in shaping people's core values, social preferences, and psychological traits. These results underscore the importance of allowing preferences and values to be endogenous to market access in welfare analysis.

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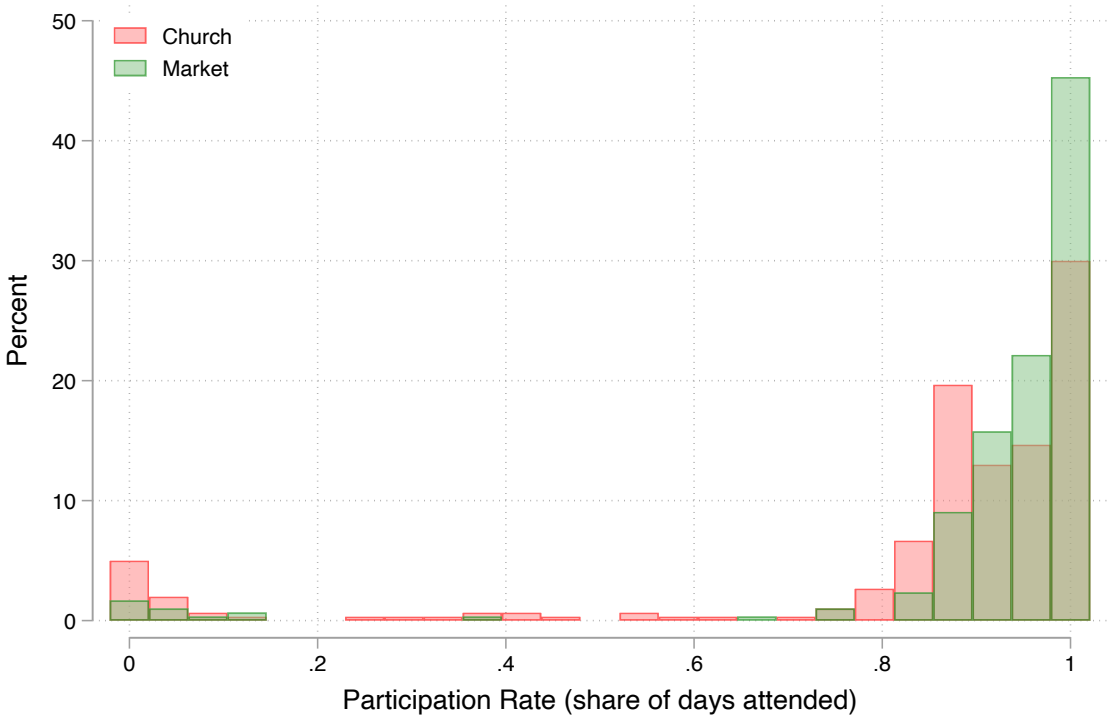
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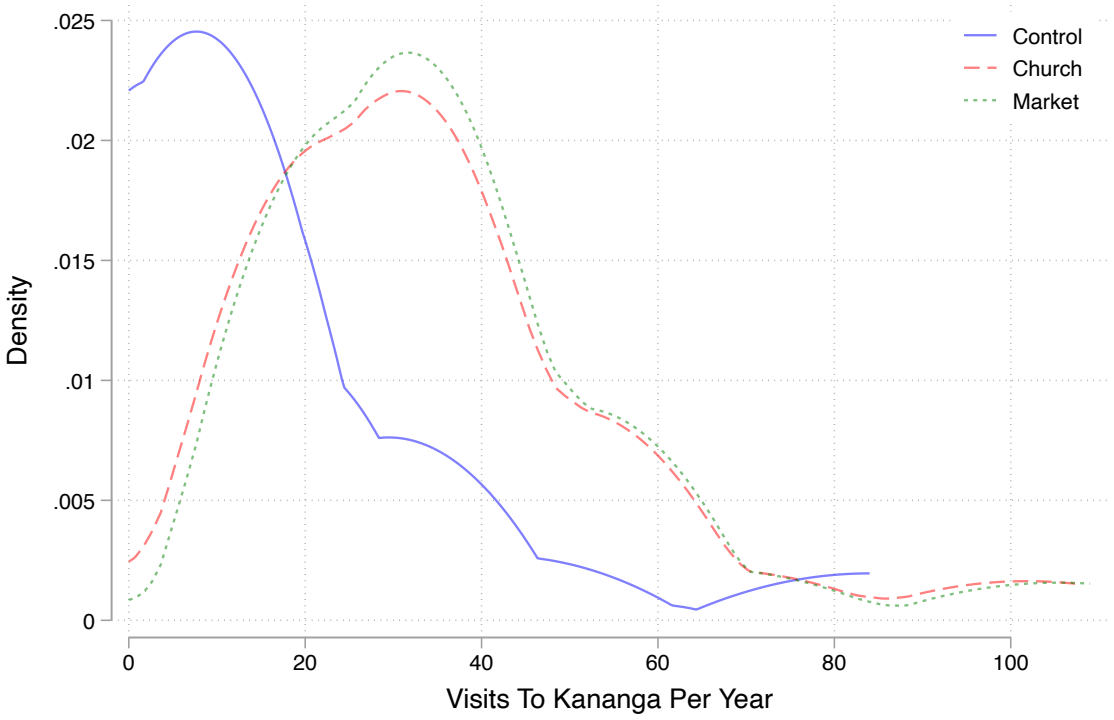
# 7 Exhibits

## Figure 1: Participation Rates in the City Access Program by Treatment



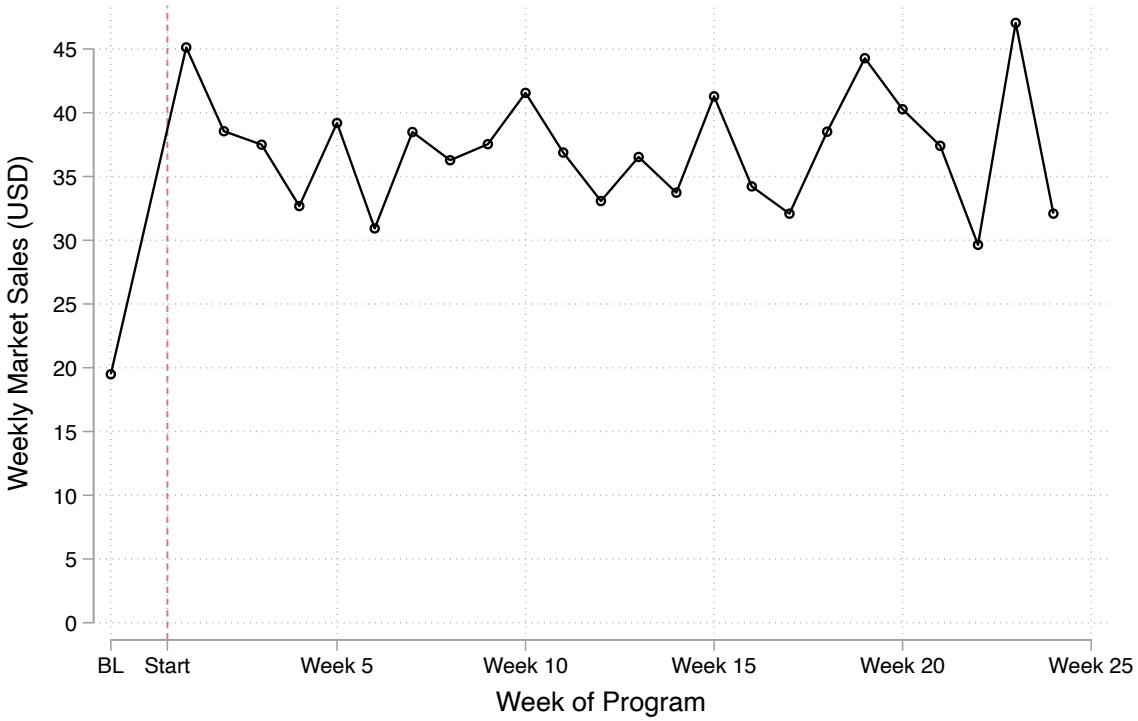

*Notes*: This figure shows the share of all 26 possible treatment days that participants attended (i.e., went to Kananga) by treatment.

## Figure 2: First Stage: ≈ 22 More Trips to Kananga




*Notes*: This figure shows the estimated number of trips made to Kananga each year by treatment. We use data from the baseline and endline survey on frequency of travel to Kananga to estimate the rate of travel to Kananga for the control group. We then supplement these data in the treatment group using CHH program data on recorded trips to the city. These visits thus include those under the auspices of the City Access Program as well as any additional private travel conducted by respondents.

## Figure 3: First Stage: ≈ 95% Increase in Weekly Market Sale Income




*Notes*: This figure shows gross weekly market sales (in USD) reported by market participants according to CHH program data. The baseline estimate (indicated "BL") comes from our baseline surveys prior to the intervention.

## Table 1: Treatment Effects on Economic Outcomes

| | Income | Formal Job | House Quality | Assets |
|---|---|---|---|---|
| Church | 0.057 | -0.026 | 0.033 | -0.099 |
| | (0.073) | (0.019) | (0.055) | (0.063) |
| Market | 0.200*** | 0.012 | -0.015 | -0.023 |
| | (0.074) | (0.020) | (0.054) | (0.064) |
| Baseline Outcome | Y | Y | Y | Y |
| Controls | Y | Y | Y | Y |
| Observations | 1720 | 1727 | 1800 | 1800 |
| $R^2$ | 0.149 | 0.109 | 0.419 | 0.250 |
| Clusters | 300 | 300 | 300 | 300 |
| Control_Mean | 0 | .15 | 0 | 0 |
| Market_v_Church | .056 | .043 | .36 | .18 |

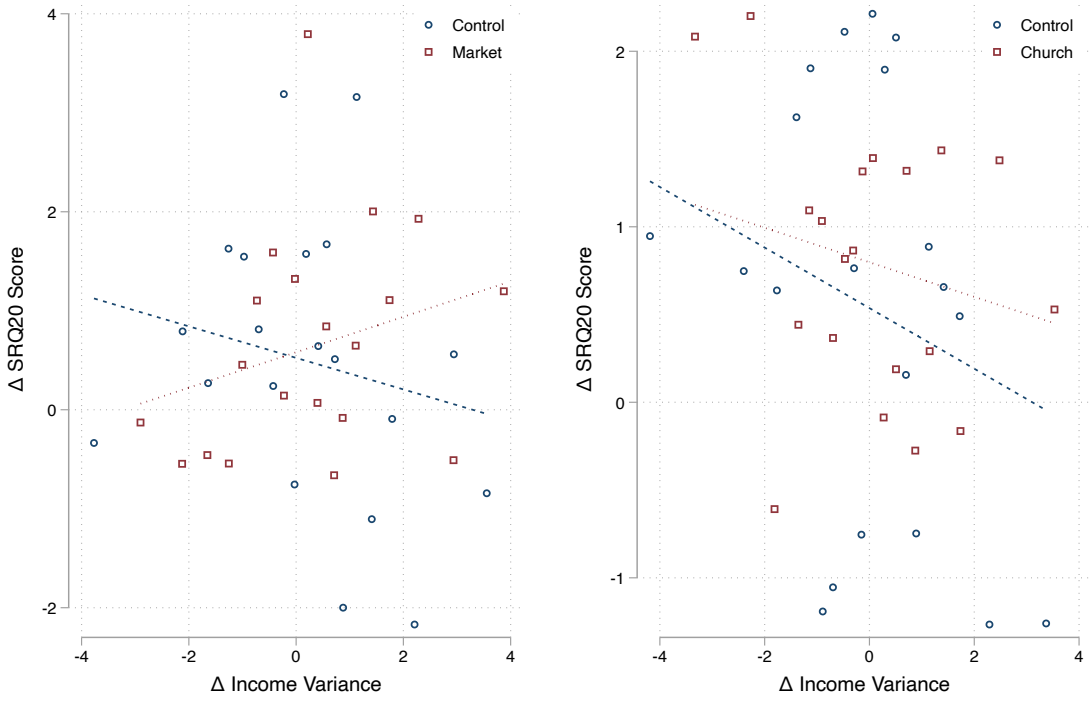
*Notes*: The table summarizes the results from estimating Equation 1 on economic outcomes: total household monthly income (standardized), a dummy for any formal employment, a house quality index (standardized), an index of assets (standardized). The right-hand side includes dummies for the church and market treatment arms. Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

## Table 2: Treatment Effects on Perceived Wellbeing

| | SRQ Score | Depression (>10) | Q1 | Q2 | Q3 | Q4 |
|---|---|---|---|---|---|---|
| Church | 0.351 | 0.046 | 0.117 | 0.394 | 0.748** | 0.526** |
| | (0.322) | (0.030) | (0.238) | (0.325) | (0.314) | (0.254) |
| Market | 0.366 | 0.056** | 0.176 | 0.670** | 0.676** | 0.576** |
| | (0.318) | (0.028) | (0.334) | (0.288) | (0.306) | (0.235) |
| Stratum FE | Y | Y | Y | Y | Y | Y |
| Baseline Outcome | Y | Y | Y | Y | Y | Y |
| Controls | Y | Y | Y | Y | Y | Y |
| Observations | 1727 | 1727 | 1727 | 1727 | 1727 | 1727 |
| Control_Mean | 10 | .48 | 10 | 10 | 10 | 10 |
| R2 | .26 | .16 | .16 | .19 | .18 | .14 |
| Market_v_Church | .96 | .71 | .86 | .35 | .82 | .84 |

*Notes*: This table summarizes the results from estimating Equation 1 with self-reported wellbeing (as measured by the SRQ-20) as the outcome. In the first column, the dependent variable is the raw SRQ-20 score (out of 20), with higher values indicating worse wellbeing. In the second column, the dependent variable is a dummy for the SRQ-20 score being over 10, a widely used cutoff indicating evidence of depression. The next four columns summarize results of quantile regressions using quartiles of the SRQ-20 score. The right-hand side includes dummies for the church and market treatment arms. Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

## Figure 4: Within-Village Income Inequality and Wellbeing




*Notes*: This figure shows the correlation of changes in within-village income variance (among main respondents) and changes in the SRQ-20 score from baseline to endline. A higher SRQ-20 score indicates worse wellbeing. The left panel shows the relationship for control and the market treatment; the right panel shows it for the control and church treatment.

## Table 3: Treatment Effects on Money Needed to be Happy

| | Income | Income to be Happy | Gap: Income to be Happy - Income |
|---|---|---|---|
| Church | 0.057 | 0.065 | 0.063 |
| | (0.073) | (0.062) | (0.062) |
| Market | 0.200*** | 0.153** | 0.141** |
| | (0.074) | (0.061) | (0.060) |
| Baseline Outcome | Y | N | N |
| Controls | Y | Y | Y |
| Observations | 1720 | 1725 | 1719 |
| $R^2$ | 0.149 | 0.056 | 0.055 |
| Clusters | 300 | 300 | 300 |
| Control_Mean | 0 | 0 | 0 |
| Market_v_Church | .056 | .18 | .24 |

*Notes*: This table explores how the market access program shaped the amount of money participants believe they need to be happy. It summarizes results from estimating Equation 1 with the following outcomes: income, income to be happy, and the gap between the two (income to be happy - income). The right-hand side includes dummies for the church and market treatment arms. Controls include the baseline outcome (when available) and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

## Table 4: Treatment Effects on the Meaning of a Good Life and a Good Person

| | Good Life | | | Good Person | | |
|---|---|---|---|---|---|---|
| | Religion | Education | Income | Religion | Productivity | Thrift |
| Church | 0.054 | 0.064 | 0.059 | -0.142 | 0.054 | -0.015 |
| | (0.089) | (0.066) | (0.144) | (0.131) | (0.076) | (0.071) |
| Market | -0.358*** | 0.132** | 0.179 | -0.437*** | 0.239*** | 0.218*** |
| | (0.081) | (0.061) | (0.140) | (0.121) | (0.072) | (0.066) |
| Stratum FE | Y | Y | Y | Y | Y | Y |
| Baseline Outcome | Y | Y | Y | N | N | N |
| Controls | Y | Y | Y | Y | Y | Y |
| Observations | 1724 | 1724 | 1724 | 1721 | 1721 | 1721 |
| $R^2$ | 0.069 | 0.071 | 0.105 | 0.052 | 0.034 | 0.038 |
| Clusters | 300 | 300 | 300 | 300 | 300 | 300 |
| Control_Mean | 2.3 | .94 | 1.6 | 2.4 | .96 | 1 |
| Market_v_Church | 6.5e-07 | .3 | .35 | .0077 | .016 | .00082 |

*Notes*: This table summarizes the results from estimating Equation 1 with the number of buttons allocated to each of the possible components of a good life or a good person as the outcome. For the good life exercise, there were seven possible categories, and for the good person there were twelve. For legibility, this synthetic table only shows results for the three largest coefficients (in absolute value). Full results can be found in Table A17 and A18, respectively. The right-hand side includes dummies for the church and market treatment arms. Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

## Table 5: Treatment Effects on Altruism (DG)

| | Nucl. Family | Extend. Family | Christian | Own Tribe | Other Tribe | Own Denom. | Other Denom. | Own Church | Avg |
|---|---|---|---|---|---|---|---|---|---|
| Church | 1.144 | 11.613 | 6.474 | 7.360 | -8.089 | -0.820 | 6.089 | -4.646 | 1.603 |
| | (9.598) | (9.413) | (11.151) | (10.341) | (10.496) | (11.074) | (11.342) | (11.788) | (8.617) |
| Market | -2.574 | 6.314 | -24.740** | -7.870 | -16.454 | -17.798* | -3.675 | -32.891*** | -9.378 |
| | (10.144) | (9.048) | (10.422) | (9.851) | (10.189) | (10.117) | (10.757) | (10.495) | (7.889) |
| Stratum FE | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Controls | Y | Y | Y | Y | Y | Y | Y | Y | Y |
| Observations | 1720 | 1720 | 1720 | 1720 | 1720 | 1668 | 1669 | 1668 | 1720 |
| $R^2$ | 0.041 | 0.033 | 0.036 | 0.037 | 0.035 | 0.029 | 0.033 | 0.038 | 0.036 |
| Clusters | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| ControlMean | 306 | 265 | 308 | 254 | 227 | 301 | 230 | 325 | 254 |
| Ftest | .72 | .56 | .0028 | .14 | .45 | .12 | .38 | .015 | .21 |

*Notes*: This table summarizes the results from estimating Equation 1 with allocations to different other parties as the outcome. For each other party, the respondent chose how much to allocate to them out of 1,000 CF. The list of all other parties includes nuclear family member, extended family member, person in Kananga, person in village, Christian, non-Christian, member of own tribe, member of other tribe, member of own denomination, member of other denomination, member of own church, and person who does not go to any church. The right-hand side includes dummies for the church and market treatment arms. Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

## Table 6: Treatment Effects on Psychological Traits

| | Locus of Control | Grit | Optimism | Self-Control | Resilience |
|---|---|---|---|---|---|
| Church | 0.068 | 0.089 | 0.026 | 0.013 | 0.076 |
| | (0.069) | (0.066) | (0.065) | (0.060) | (0.061) |
| Market | 0.175** | 0.127** | 0.042 | -0.058 | -0.069 |
| | (0.069) | (0.060) | (0.066) | (0.060) | (0.064) |
| Stratum FE | Y | Y | Y | Y | Y |
| Baseline Outcome | Y | Y | Y | Y | Y |
| Controls | Y | Y | Y | Y | Y |
| Observations | 1717 | 1719 | 1676 | 1665 | 1368 |
| $R^2$ | 0.023 | 0.053 | 0.038 | 0.071 | 0.025 |
| Clusters | 300 | 300 | 298 | 298 | 240 |
| ControlMean | 2.7 | -.035 | .00016 | -.034 | -.033 |
| Ftest | .13 | .57 | .81 | .22 | .028 |

*Notes*: This table summarizes the results from estimating Equation 1 with varies psychological traits as the outcome. Each outcome (and the underlying survey questions) is described in Section 5.6. The right-hand side includes dummies for the church and market treatment arms. Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

## Table 7: Treatment Effects on the Forces Influencing Private Life and Work

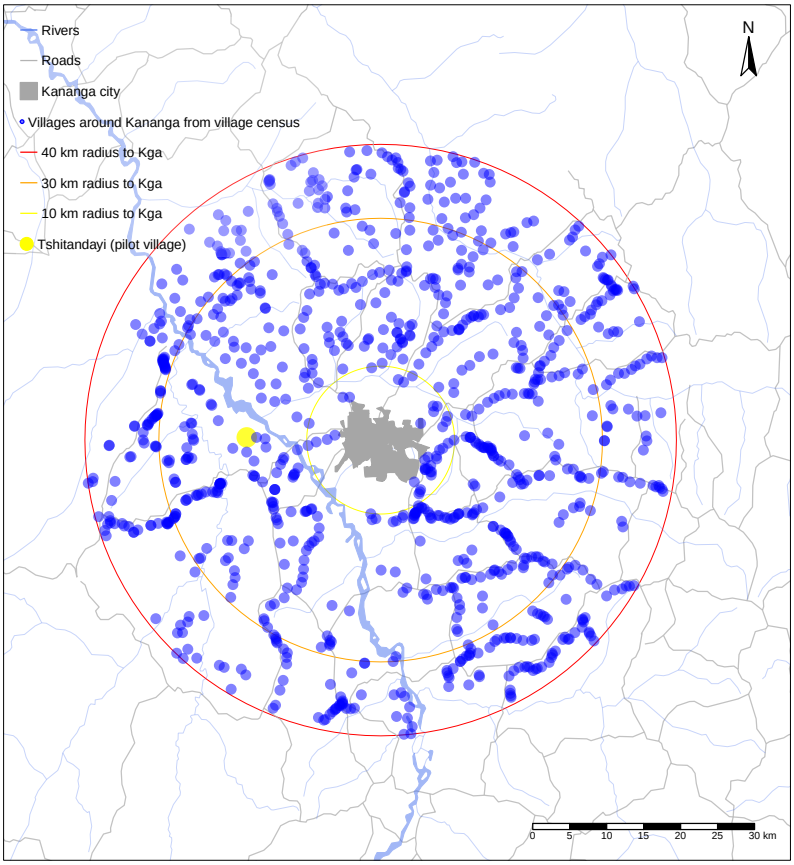
| | Self | Family | Friends | God | Custom | Luck |
|---|---|---|---|---|---|---|
| *Panel A: Marriage and Family* | | | | | | |
| Church | 0.229** | 0.062 | 0.050 | -0.196 | -0.059 | -0.078 |
| | (0.097) | (0.085) | (0.075) | (0.141) | (0.037) | (0.099) |
| Market | 0.330*** | 0.002 | 0.068 | -0.462*** | 0.067 | -0.009 |
| | (0.107) | (0.084) | (0.077) | (0.124) | (0.041) | (0.097) |
| Observations | 1544 | 1544 | 1544 | 1544 | 1544 | 1544 |
| $R^2$ | 0.040 | 0.031 | 0.061 | 0.081 | 0.088 | 0.034 |
| Clusters | 271 | 271 | 271 | 271 | 271 | 271 |
| ControlMean | 2 | 1.8 | 1.1 | 3.7 | .23 | 1.1 |
| Ftest | .33 | .47 | .82 | .038 | .0016 | .46 |
| *Panel B: Work and Income* | | | | | | |
| Church | -0.096 | 0.032 | 0.124 | -0.101 | -0.001 | 0.058 |
| | (0.116) | (0.089) | (0.078) | (0.148) | (0.053) | (0.089) |
| Market | 0.055 | -0.095 | 0.192*** | -0.438*** | 0.083 | 0.223** |
| | (0.121) | (0.084) | (0.074) | (0.134) | (0.052) | (0.091) |
| Observations | 1544 | 1544 | 1544 | 1544 | 1544 | 1544 |
| $R^2$ | 0.057 | 0.030 | 0.048 | 0.093 | 0.078 | 0.056 |
| Clusters | 271 | 271 | 271 | 271 | 271 | 271 |
| ControlMean | 2.3 | 1.6 | .9 | 4 | .32 | .95 |
| Ftest | .21 | .14 | .39 | .02 | .13 | .077 |
| Stratum FE | Y | Y | Y | Y | Y | Y |
| Baseline Outcome | Y | Y | Y | Y | Y | Y |
| Controls | Y | Y | Y | Y | Y | Y |

*Notes*: This table summarizes the results from estimating Equation 1 with the number of buttons allocated to each of the possible forces shaping one's life as the outcome. The first panel shows results concerning the forces that shape "happiness and harmony you experience in your marriage and in your family," and the second panel shows results concerning forces that shape "the choice of work and amount of income that you have today." The right-hand side includes dummies for the church and market treatment arms. Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

# Appendix

## A1 Additional Exhibits — Setting

**Figure A1: Sampling Frame — Villages around Kananga**




*Notes*: This map shows the 988 villages mapped in our village census that constitute the sampling frame.

**Table A1: Village Characteristics**

| Variable | Mean | Std. dev. | Min | Max | N | J |
|---|---|---|---|---|---|---|
| Number of hhs per village | 99.74 | 69.48 | 10 | 300 | 300 | 300 |
| Villages has a market | 0.08 | 0.27 | 0 | 1 | 300 | 300 |
| Village has a church | 0.88 | 0.33 | 0 | 1 | 300 | 300 |
| Household monthly income (USD) | 23.66 | 30.02 | 0 | 421 | 1,727 | 300 |
| Work in agriculture | 0.92 | 0.27 | 0 | 1 | 1,727 | 300 |
| Salaried employment | 0.12 | 0.32 | 0 | 1 | 1,728 | 300 |

*Notes*: The table summarizes information about the 300 villages in our sample. The data for the first three rows come from the initial village census conducted prior to the intervention. The data for the next three rows come from the baseline survey.

**Table A2: Comparing Markets: Urban v. Rural**

| | Urban Market | Rural Market | Difference |
|---|---|---|---|
| Number of customer | 5.23 | 2.19 | 0 |
| Number of people they speak with | 7.35 | 5.82 | 0 |
| Total earnings (USD) | 8.46 | 6.31 | 0 |
| Number of products bought | 2.24 | 3.69 | 0 |
| Number of vendors bought from | 2.14 | 3.54 | 0 |
| Share of these vendors known | 0.19 | 0.35 | 0 |

*Notes*: The table summarizes information about the two urban markets included in the City Access Program and the set of village markets present among sampled villages. Enumerators conducted surveys with a sample of vendors in rural market to provide comparable data to CHH program data with market participants during the program.

# A2 Additional Exhibits — Design

To invite villages to participate in the City Access Program, CHH staff used the following scripts.

- **Common**:
  - "I am delighted to inform you that your village has been selected to take part in a project focused on providing urban access organized by Congo Helping Hands. CHH is a non-profit organization founded in 2004. CHH's main goal is to respond to critical needs in the province and to promote the wellbeing of its inhabitants. Past projects have focused on health and sanitation. The current project aims to facilitate access through providing transportation to Kananga for villagers in Kasai Central."

- **Treatment-specific**:
  - Market: "The reason to go to Kananga is that CHH would like to invite you and your spouse to go to the main market in Kananga to buy and sell goods as you please for the next six months. CHH will provide transportation for you and your partner in the morning and back to the village in the afternoon."

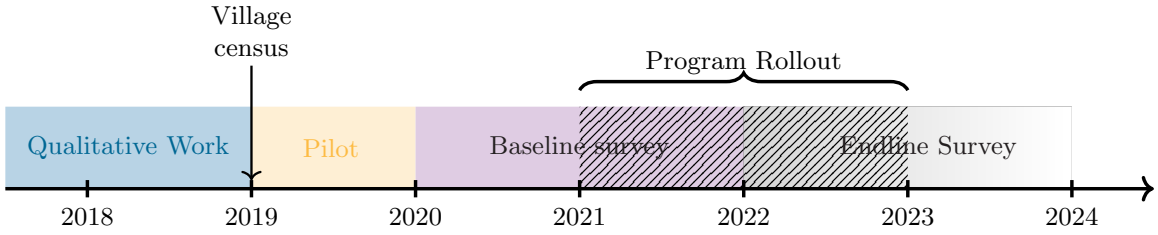
– Church: "The reason to go to Kananga is that CHH and the church [name] would like to invite you and your spouse to attend their Sunday services in Kananga for the next six months. CHH will provide transportation for you and your partner in the morning and back to the village in the afternoon."

**Table A3: Allocation of Units by Treatment**

| | Main Respondents | Network Respondents | Non-Network Respondents | Chief | Villages |
|---|---|---|---|---|---|
| Market | 600 | 600 | 200 | 100 | 100 |
| Church | 600 | 600 | 200 | 100 | 100 |
| Pure Control | 600 | 600 | 200 | 100 | 100 |
| Total | 1,800 | 1,800 | 600 | 300 | 300 |

*Notes*: The table summarizes the allocation of different respondent types across the arms of the experiment.

**Figure A2: Timeline**




*Notes*: This figure shows the timeline of the project. In each of ten waves, the baseline survey preceded randomization, program rollout, a gap of 6-12 months, and then the endline survey.

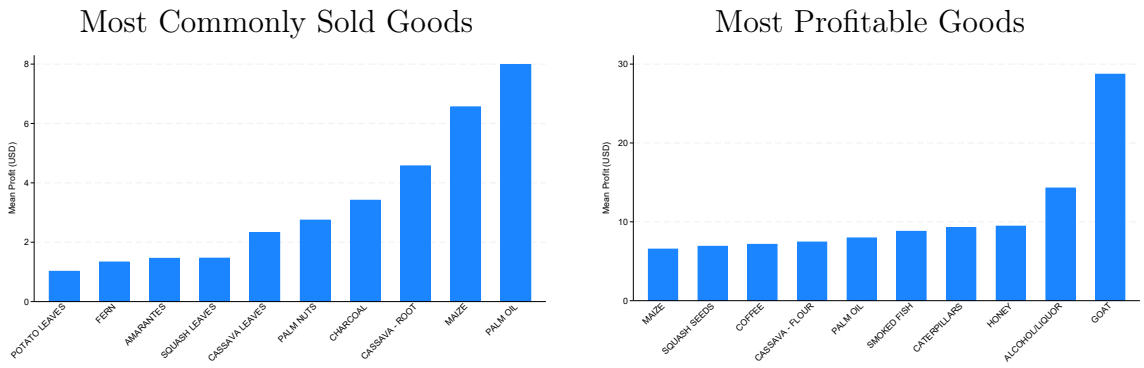
## Table A4: Balance Table

| | Church | | Market | | All | | |
|---|---|---|---|---|---|---|---|
| | $\beta_1$ | $p_1$ | $\beta_2$ | $p_2$ | *Joint Test* ($p$) | $N$ | *Control Mean* |
| Age | 0.288 | 0.747 | 0.413 | 0.637 | 0.890 | 1800 | 36.368 |
| Years of education | 0.005 | 0.905 | 0.005 | 0.913 | 0.991 | 1800 | 2.448 |
| Frequency in Kananga | -0.023 | 0.800 | -0.008 | 0.926 | 0.967 | 1800 | 3.977 |
| Income | 2718.383 | 0.686 | 793.417 | 0.901 | 0.921 | 1799 | 68300 |
| Nights hungry (month) | 0.053 | 0.652 | 0.038 | 0.724 | 0.888 | 1800 | 1.308 |
| Market in village | -0.010 | 0.792 | -0.020 | 0.588 | 0.862 | 1800 | 0.090 |
| Calories purchased | 0.063 | 0.601 | 0.038 | 0.743 | 0.868 | 1800 | 4.345 |
| Ingroup preference | -0.200 | 0.803 | -0.272 | 0.735 | 0.941 | 1800 | 54.847 |
| Moral parochialism | -0.023 | 0.411 | -0.019 | 0.509 | 0.679 | 1800 | 0.494 |
| Church position | 0.002 | 0.949 | 0.002 | 0.947 | 0.997 | 1800 | 0.217 |
| Religiosity | 0.002 | 0.972 | 0.013 | 0.841 | 0.977 | 1734 | 3.420 |
| Religiosity (intrinsic) | 0.042 | 0.518 | 0.017 | 0.819 | 0.804 | 1734 | -0.370 |
| Religiosity (extrinsic) | 0.015 | 0.698 | 0.003 | 0.933 | 0.919 | 1734 | 0.385 |
| Number of pastors in village | -0.020 | 0.879 | -0.070 | 0.578 | 0.850 | 1800 | 1.090 |
| Attrition | 0.002 | 0.960 | 0.005 | 0.877 | 0.987 | 1800 | 0.328 |

*Notes*: The table summarizes balance tests using data from the baseline survey and village census. We regress each characteristic on treatment dummies and provide the associated coefficients and p-values. We also show the p-value from a joint F-test.

# A3 Additional Exhibits — Results: Take Up and First Stage

## Figure A3: Profit Margins: Goods Sold by Market Participants




*Notes*: This figure shows the ten most commonly sold products and ten most profitable products sold by market participants in the City Access Program. Profits are estimated using data on input and sales prices collected by CHH program data.

## Figure A4: Goods Demanded by Villages in Urban Market



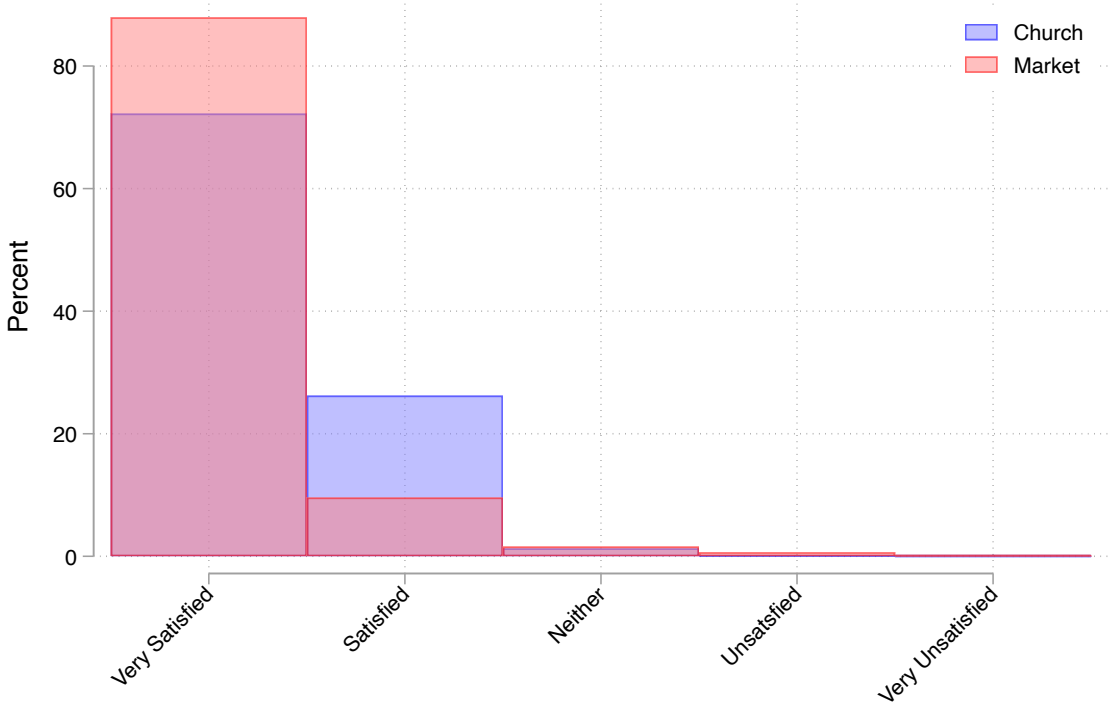

*Notes*: This figure shows the goods for which villagers reported the greatest demand, if offered a chance to visit the urban market.

## Table A5: Urban Markets: Inside v. Outside

| | Inside Market | Outside Market | Difference |
|---|---|---|---|
| Number of customers | 6.39 | 4.10 | 2.29*** |
| Share of customers known | 0.39 | 0.26 | .13*** |
| Number of people spoken with | 9.01 | 5.78 | 3.23*** |
| Mean sale price of products (USD) | 6.57 | 5.32 | .72 |
| Total earnings (USD) | 9.12 | 7.87 | 1.25** |
| Number of products bought | 2.11 | 2.36 | -.25** |
| Number of vendors bought from | 2.03 | 2.25 | -.23*** |
| Share of these vendors known | 0.28 | 0.11 | .17*** |

*Notes*: The table compares the inside market (*grand marché*) and outside market (*Nkashama*) using CHH program data. The table shows averages for each market followed by the difference (and significance according to $t$-tests).

## Figure A5: Satisfaction During Program




*Notes*: This figure shows satisfaction levels of market and church participants, as reported to CHH staff at the end of each day in the city.

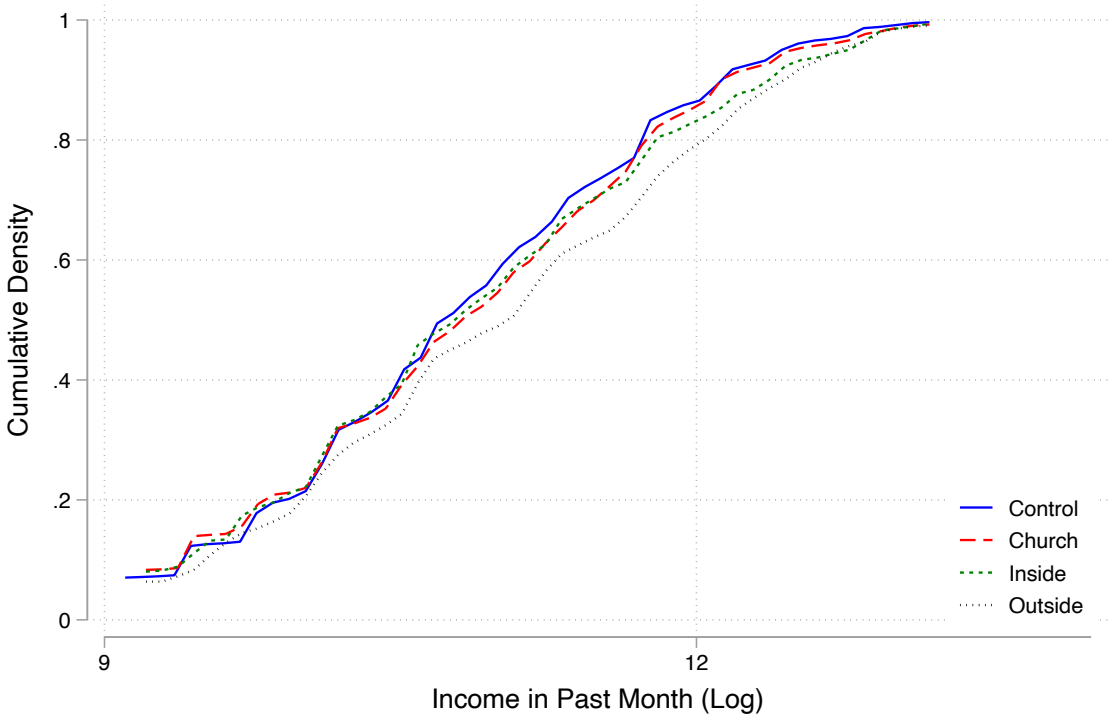
# A4 Additional Exhibits — Results: Economic Effects

**Table A6: Treatment Effects on Income — Heterogeneity**

| | Income | Income | Income |
|---|---|---|---|
| Church | 0.057 | 0.057 | 0.057 |
| | (0.073) | (0.073) | (0.073) |
| Market | 0.200*** | | |
| | (0.074) | | |
| Market - Inside | | 0.140 | 0.222* |
| | | (0.099) | (0.131) |
| Market - Outside | | 0.258*** | 0.434*** |
| | | (0.086) | (0.117) |
| Market - Inside × Woman | | | -0.163 |
| | | | (0.138) |
| Market - Outside × Woman | | | -0.350*** |
| | | | (0.123) |
| Woman | | | 0.042 |
| | | | (0.063) |
| Baseline Outcome | Y | Y | Y |
| Controls | Y | Y | Y |
| Observations | 1720 | 1720 | 1720 |
| $R^2$ | 0.149 | 0.149 | 0.153 |
| Clusters | 300 | 300 | 300 |
| Control_Mean | 0 | 0 | 0 |
| Market_v_Church | .056 | | |
| Inside_v_Outside | | .28 | .18 |
| Inside_v_Church | | .4 | .2 |
| Outside_v_Church | | .021 | .0012 |

*Notes*: This table summarizes the results from estimating Equation 1 with total monthly household income (standardized) as the outcome. The right-hand side includes dummies for the church and market treatment arms as well as (in column 2) the market sub-treatments (inside and outside), interacted with a dummy for women (in column 3). Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

## Figure A6: Treatment Effects on Income: CDFs




*Notes*: This figure shows CDFs of endline log total household monthly income by treatment arm.

## Table A7: Treatment Effects on Income — Robustness

| | Main | No Baseline Outcome Control | No Other Controls | Log | IHS |
|---|---|---|---|---|---|
| Church | 0.057 | 0.045 | 0.072 | 0.020 | 0.017 |
| | (0.073) | (0.081) | (0.073) | (0.090) | (0.092) |
| Market | 0.200*** | 0.198** | 0.199*** | 0.155* | 0.156* |
| | (0.074) | (0.083) | (0.076) | (0.082) | (0.083) |
| Stratum FE | Y | Y | Y | Y | Y |
| Baseline Outcome | Y | N | Y | Y | Y |
| Controls | Y | Y | N | Y | Y |
| Observations | 1720 | 1721 | 1720 | 1720 | 1720 |
| Control_Mean | 0 | 0 | 0 | 11 | 11 |
| R2 | .15 | .053 | .14 | .11 | .11 |
| Market_v_Church | .056 | .066 | .092 | .13 | .13 |

*Notes*: This table shows robustness checks for the treatment effects on income. It summarizes the results from estimating Equation 1 with total monthly household income (standardized) as the outcome. Column 1 shows the main specification. Column 2 removes the baseline outcome control. Column 3 removes the main control variable set (see Section 5.2). Column 4 for uses a log-transformed outcome. Column 5 uses an IHS-transformed outcome. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

**Table A8: Treatment Effects on Market Sales Income**

| | Main | Market Het. | Gender Het. |
|---|---|---|---|
| Church | -0.027 | -0.027 | -0.079 |
| | (0.060) | (0.060) | (0.092) |
| Market | 0.156** | | |
| | (0.060) | | |
| Market - Inside | | 0.118* | -0.001 |
| | | (0.071) | (0.107) |
| Market - Outside | | 0.192** | 0.258* |
| | | (0.079) | (0.135) |
| Church X Woman | | | 0.102 |
| | | | (0.087) |
| Market - Inside X Woman | | | 0.239* |
| | | | (0.128) |
| Market - Outside X Woman | | | -0.131 |
| | | | (0.135) |
| Woman | | | -0.229*** |
| | | | (0.060) |
| Baseline Outcome | Y | Y | Y |
| Controls | Y | Y | Y |
| Observations | 1727 | 1727 | 1727 |
| $R^2$ | 0.169 | 0.169 | 0.173 |
| Clusters | 300 | 300 | 300 |
| Control_Mean | 0 | 0 | 0 |
| Market_v_Church | .0049 | | |
| Inside_v_Outside | | .41 | .081 |
| Inside_v_Church | | .053 | .48 |
| Outside_v_Church | | .008 | .015 |

*Notes*: This table summarizes the results from estimating Equation 1 with total sales income (standardized) as the outcome. The right-hand side includes dummies for the church and market treatment arms as well as (in column 2) the market sub-treatments (inside and outside), interacted with a dummy for women (in column 3). Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

**Table A9: Treatment Effects on City Sales and City Trade Partners**

| | City Sales | City Sales | City Partner | City Partner |
|---|---|---|---|---|
| Church | -0.010 | -0.010 | -0.002 | -0.002 |
| | (0.024) | (0.024) | (0.015) | (0.015) |
| Market | 0.037* | | 0.032** | |
| | (0.022) | | (0.016) | |
| Market - Inside | | 0.045* | | 0.027 |
| | | (0.025) | | (0.017) |
| Market - Outside | | 0.029 | | 0.038 |
| | | (0.027) | | (0.024) |
| Controls | Y | Y | Y | Y |
| Observations | 1800 | 1800 | 1727 | 1727 |
| $R^2$ | 0.078 | 0.078 | 0.038 | 0.038 |
| Clusters | 300 | 300 | 300 | 300 |
| Control_Mean | .13 | .13 | .049 | .049 |
| Market_v_Church | .03 | | .058 | |
| Inside_v_Outside | | .56 | | .68 |
| Inside_v_Church | | .025 | | .12 |
| Outside_v_Church | | .15 | | .12 |

*Notes*: This table summarizes the results from estimating Equation 1 with dummies for reporting selling in the city and having city trade partners as the outcome. The right-hand side includes dummies for the church and market treatment arms as well as the market sub-treatments (inside and outside). Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

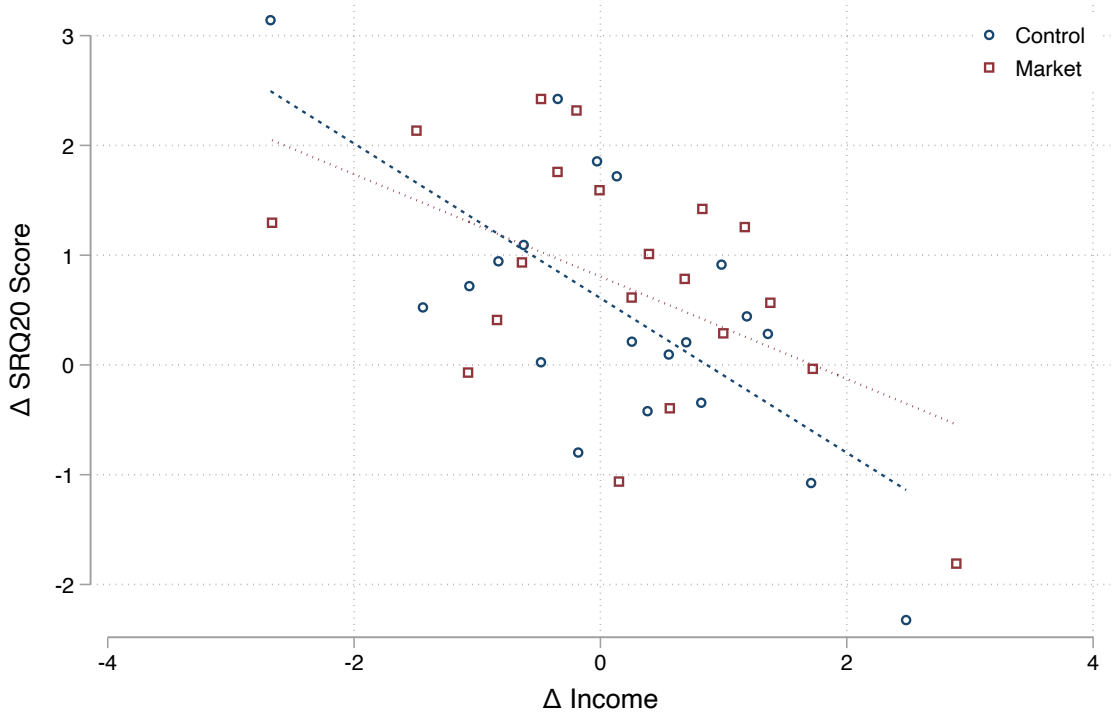
## Table A10: Treatment Effects on Cash Crop Sales

| | Palm Oil Sales | Palm Oil Sales | New Coffee Sales | New Coffee Sales |
|---|---|---|---|---|
| Church | -0.010 | -0.010 | -0.004 | -0.004 |
| | (0.017) | (0.017) | (0.009) | (0.009) |
| Market | 0.042** | | 0.035*** | |
| | (0.019) | | (0.012) | |
| Market - Inside | | 0.037 | | 0.027* |
| | | (0.025) | | (0.015) |
| Market - Outside | | 0.047** | | 0.042** |
| | | (0.023) | | (0.016) |
| Controls | Y | Y | Y | Y |
| Observations | 1728 | 1728 | 1586 | 1586 |
| $R^2$ | 0.030 | 0.030 | 0.040 | 0.041 |
| Clusters | 300 | 300 | 300 | 300 |
| Control_Mean | .082 | .082 | .019 | .019 |
| Market_v_Church | .0062 | | .0013 | |
| Inside_v_Outside | | .72 | | .45 |
| Inside_v_Church | | .06 | | .035 |
| Outside_v_Church | | .014 | | .0059 |

*Notes*: This table summarizes the results from estimating Equation 1 with dummies for selling palm oil or coffee as the outcome. The survey question concerning palm oil asks respondents about sales in a "typical week," whereas the question concerning coffee asks them about new items they started selling in the past six months. The right-hand side includes dummies for the church and market treatment arms as well as the market sub-treatments (inside and outside). Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

# A5 Additional Exhibits — Results: Subjective Well-being

**Figure A7: Income Changes and Wellbeing in Market and Control**



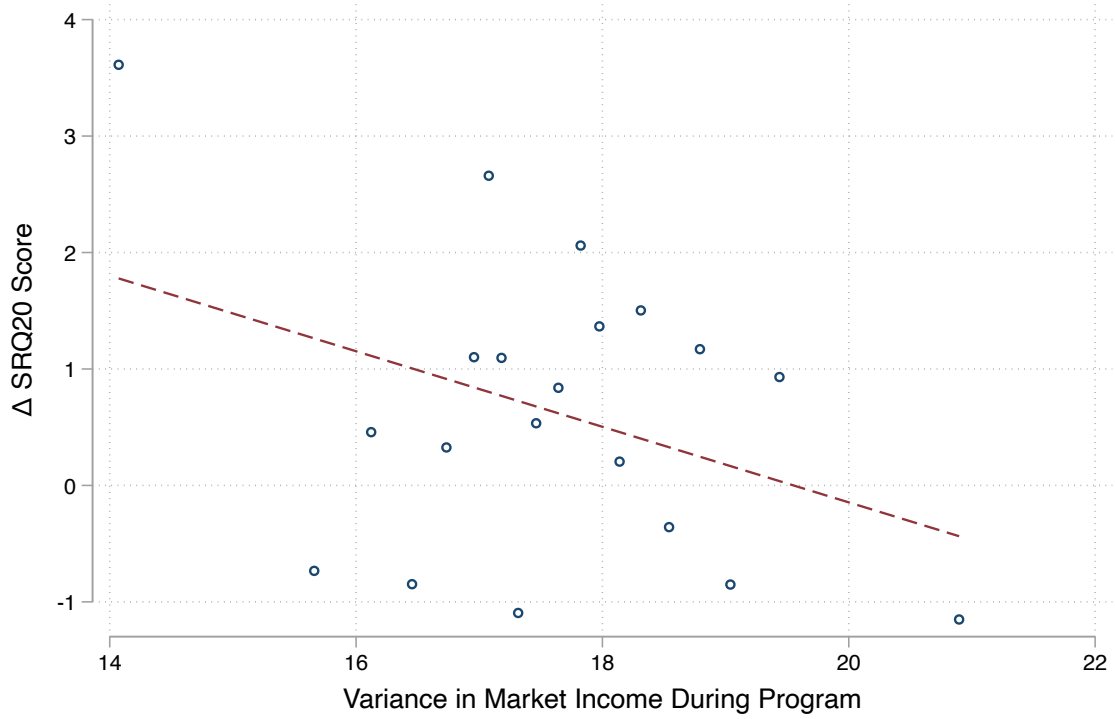

*Notes*: This figure shows the correlation of changes in household income from baseline to endline and changes in the SRQ-20 score from baseline to endline — for respondents in the market treatment and control.

## Table A11: Treatment Effects on Ease and Satisfaction from Work

| | Farming Ease | Commerce Ease | Farming Satisfaction | Commerce Satisfaction |
|---|---|---|---|---|
| Church | -0.043 | 0.010 | 0.010 | -0.032 |
| | (0.075) | (0.073) | (0.060) | (0.069) |
| Market | -0.055 | 0.209*** | 0.049 | 0.237*** |
| | (0.075) | (0.067) | (0.067) | (0.070) |
| Stratum FE | Y | Y | Y | Y |
| Controls | Y | Y | Y | Y |
| Observations | 1377 | 1377 | 1376 | 1377 |
| $R^2$ | 0.035 | 0.050 | 0.023 | 0.056 |
| Clusters | 243 | 243 | 243 | 243 |
| Control_Mean | 0 | 0 | 0 | 0 |

*Notes*: This table summarizes the results from estimating Equation 1 with self-reported ease and satisfaction of farming and commercial work as the outcome. The right-hand side includes dummies for the church and market treatment arms as well as the market sub-treatments (inside and outside). Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

## Figure A8: Income Volatility at Market and Wellbeing



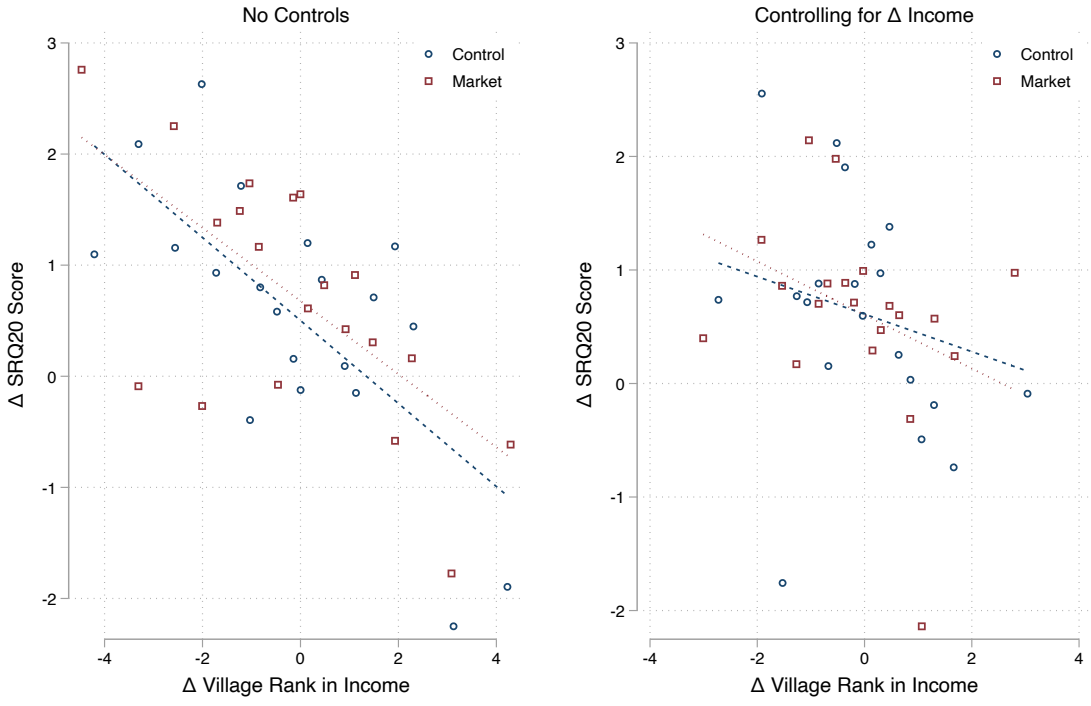

*Notes*: This figure shows the correlation of within-participant income variance at the market and changes in the SRQ-20 score from baseline to endline. Market income variance is estimated using CHH program data and is thus available only for market participants.

## Table A12: Within-Village Income Inequality and Wellbeing

| | All Treatments | | Market Arm Only | |
|---|---|---|---|---|
| | Δ Income Variance | Increase in Income Variance (1-0) | Δ SRQ20 | Δ SRQ20 |
| Church | 0.129 | 0.002 | | |
| | (0.244) | (0.066) | | |
| Market | 0.707*** | 0.181*** | | |
| | (0.244) | (0.064) | | |
| Δ Income Variance | | | 0.205 | |
| | | | (0.147) | |
| Increase in Income Variance (1-0) | | | | 1.184** |
| | | | | (0.571) |
| Controls | Y | Y | Y | Y |
| Observations | 1800 | 1800 | 588 | 588 |
| Control_Mean | -.12 | .47 | .68 | .68 |
| Market_v_Church | .017 | .0081 | | |

*Notes*: This table examines the relationship between within-village income inequality among main respondents at endline and wellbeing. The first column summarizes the results from estimating Equation 1 with the difference between income variance from baseline to endline as the outcome. The second column instead considers a dummy indicating an increase in income variance (among main respondents). The right-hand side includes dummies for the church and market treatment arms. The next two columns consider only the market arm and examine the correlation between within-village income variance changes and changes in the SRQ-20 score as the outcome. Controls are summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

## Figure A9: Δ Income Rank in Village and Δ Wellbeing




*Notes*: This figure shows the correlation between changes in within-village income rank (among main respondents) and changes in the SRQ-20 score from baseline to endline. The left panel shows the unconditional relationship, and the right panel shows the relationship controlling for changes in income to isolate changes in relative income rank vis-a-vis others.

## Table A13: Spillovers: Heterogeneity by Respondent Type

| | Income | Depression | Money to be Happy |
|---|---|---|---|
| Church × Participant | 0.069 | 0.045 | 0.064 |
| | (0.073) | (0.030) | (0.061) |
| Church × Friend | -0.008 | 0.026 | -0.052 |
| | (0.074) | (0.029) | (0.068) |
| Church × Non-Friend | -0.022 | 0.025 | -0.058 |
| | (0.110) | (0.045) | (0.108) |
| Market × Participant | 0.202*** | 0.056** | 0.152** |
| | (0.077) | (0.028) | (0.061) |
| Market × Friend | -0.063 | 0.062** | 0.003 |
| | (0.076) | (0.028) | (0.081) |
| Market × Non-Friend | -0.026 | -0.051 | -0.026 |
| | (0.120) | (0.047) | (0.111) |
| Friend | 0.108 | -0.002 | 0.088 |
| | (0.067) | (0.028) | (0.058) |
| Non-Friend | 0.106 | 0.029 | 0.057 |
| | (0.092) | (0.038) | (0.097) |
| Baseline Outcome | Y | Y | N |
| Controls | Y | Y | Y |
| Observations | 3975 | 3998 | 3976 |
| Control_Mean | 0 | .48 | 0 |

*Notes*: This table examines spillover effects of the treatments on network and non-network respondents. We re-estimate Equation 1 but include interactions with the respondent type. The dependent variable is monthly household income (standardized) (Column 1), a depression dummy (Column 2), and the amount of money for happiness (standardized) (Column 3). Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

## Table A14: Heterogeneity by Affluence of Church Network

| | SRQ20 | SRQ20 | SRQ20 | SRQ20 |
|---|---|---|---|---|
| Church | 0.351 | 0.412 | 0.376 | 0.375 |
| | (0.322) | (0.427) | (0.367) | (0.391) |
| Market | 0.366 | 0.367 | 0.366 | 0.366 |
| | (0.318) | (0.319) | (0.318) | (0.318) |
| Church × Wealth ≥ p50 | | -0.102 | | |
| | | (0.457) | | |
| Church × Edu ≥ p50 | | | -0.048 | |
| | | | (0.443) | |
| Church × Income ≥ p50 | | | | -0.051 |
| | | | | (0.469) |
| Baseline Outcome | Y | Y | Y | Y |
| Controls | Y | Y | Y | Y |
| Observations | 1727 | 1727 | 1727 | 1727 |
| Control_Mean | 10 | 10 | 10 | 10 |
| Market_v_Church | .96 | .91 | .98 | .98 |

*Notes*: This table examines heterogeneous effects of the church treatment based on the affluence of the urban congregation. The first column reproduces the main treatment effect by estimating Equation 1 with the SRQ-20 score as the outcome. The next three columns study heterogeneous effects of the church treatment by the wealth, education, and income of the urban church congregants. For each variable, we interact the church treatment with a dummy for whether the congregation is above the median in wealth, education, or income. We do not observe these variables for the market or control group, so this is equivalent to partitioning the church treatment into two groups. Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

## Table A15: Income Changes After Market Program and Wellbeing

| | Endline Income | | SRQ20 | | |
|---|---|---|---|---|---|
| Average Market Earnings | 0.145** | -0.358 | | | |
| | (0.068) | (0.290) | | | |
| Percent Earnings Change (BL to Mkt.) | | | -0.610*** | | |
| | | | (0.215) | | |
| Percent Earnings Change (Mkt. to EL) | | | | -0.072 | |
| | | | | (0.196) | |
| Lower Weekly Earnings (Mkt. to EL) | | | | | 0.238 |
| | | | | | (0.505) |
| Baseline Outcome | Y | Y | Y | Y | Y |
| Controls | Y | Y | Y | Y | Y |
| Observations | 527 | 527 | 527 | 527 | 527 |
| Dep_Var_Mean | 0.04 | 11 | 11 | 11 | 11 |

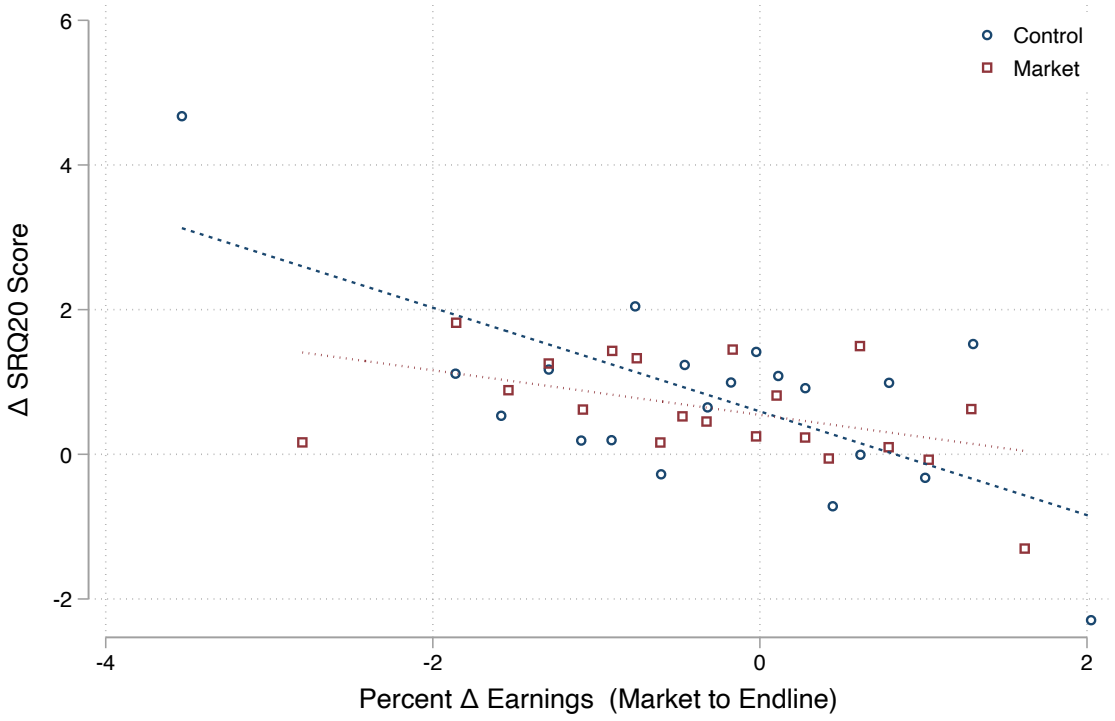
*Notes*: This table examines whether a potential "lost fortune" mechanism could explain the negative impact of market access on wellbeing. Columns 1 and 2 show the correlation between market earnings (during the program) and endline income and endline subjective wellbeing, respectively. Column 3 shows the correlation between income changes from baseline to the market program and subjective wellbeing at endline. Column 4 shows the correlation between the change in income from the program period to endline and wellbeing. Column 5 examines the same relationship using a dummy for individuals for whom weekly income decreased in this period. All of these analyses are limited to the market arm. Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

## Table A16: Within-Village Income Inequality and Money to be Happy

| | Money to be Happy | Money to be Happy |
|---|---|---|
| $\Delta$ Income Variance | 0.045* | |
| | (0.027) | |
| Increase in Income Variance (1-0) | | 0.128 |
| | | (0.098) |
| Controls | Y | Y |
| Observations | 587 | 587 |
| Control_Mean | .69 | .69 |

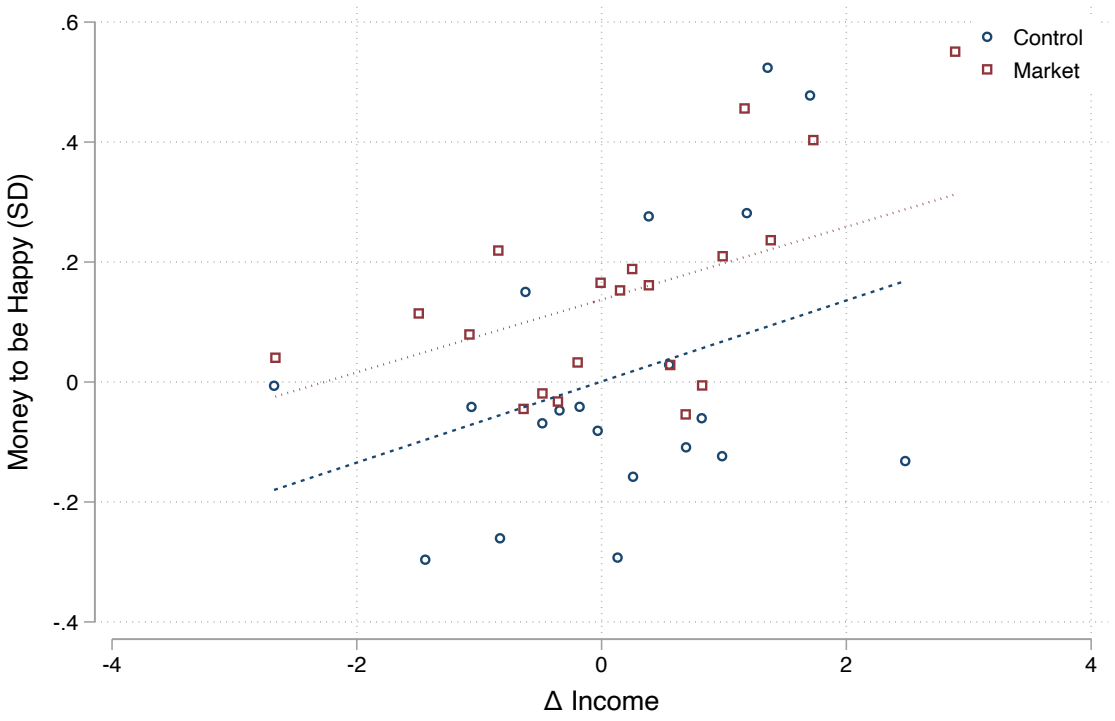
*Notes*: This table examines the relationship between within-village income inequality among main respondents at endline and the money they say they need to be happy. The independent variable in the first row is the change in income variance from baseline to endline; in the second row, it is a dummy indicating that income variance increased from baseline to endline. The sample is the market arm only. Controls are summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

## Figure A10: Income Changes After the Market Program and Wellbeing




*Notes*: This figure shows the correlation between changes in income (from the market period to endline) and changes in subjective wellbeing. We estimate the same relationship for the control group by using the baseline income instead of the market program income.

## Figure A11: Income Changes and Money to be Happy




*Notes*: This figure shows the correlation changes in income from baseline to endline and the money needed to be happy at endline (this variable was not included at baseline) — separately for the market treatment and control.

# A6 Additional Exhibits — Results: Core Values

### Table A17: Treatment Effects on the Meaning of the Good Life

| | Family | Health | Equality | Education | Religion | Income | Tradition |
|---|---|---|---|---|---|---|---|
| Church | -0.076 | 0.020 | -0.121 | 0.064 | 0.054 | 0.059 | -0.003 |
| | (0.084) | (0.083) | (0.088) | (0.066) | (0.089) | (0.144) | (0.038) |
| Market | -0.008 | 0.031 | -0.052 | 0.132** | -0.358*** | 0.179 | 0.076** |
| | (0.085) | (0.082) | (0.081) | (0.061) | (0.081) | (0.140) | (0.039) |
| Stratum FE | Y | Y | Y | Y | Y | Y | Y |
| Baseline Outcome | Y | Y | Y | Y | Y | Y | Y |
| Controls | Y | Y | Y | Y | Y | Y | Y |
| Observations | 1724 | 1724 | 1724 | 1724 | 1724 | 1724 | 1724 |
| $R^2$ | 0.053 | 0.066 | 0.050 | 0.071 | 0.069 | 0.105 | 0.064 |
| Clusters | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| Control_Mean | 2 | 1.3 | 1.7 | .94 | 2.3 | 1.6 | .2 |
| Market_v_Church | .41 | .89 | .41 | .3 | 6.5e-07 | .35 | .049 |

*Notes*: This table summarizes the results from estimating Equation 1 with the number of buttons allocated to each of the possible components of the good life as the outcome. The right-hand side includes dummies for the church and market treatment arms. Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

### Table A18: Treatment Effects on the Meaning of the Good Person

| | Independence | Dilligence | Thrift | Selfcontrol | Tolerance | Generosity | Productivity | Religion |
|---|---|---|---|---|---|---|---|---|
| Church | 0.014 | 0.023 | -0.015 | 0.011 | 0.284*** | -0.037 | 0.054 | -0.142 |
| | (0.149) | (0.088) | (0.071) | (0.077) | (0.082) | (0.083) | (0.076) | (0.131) |
| Market | -0.027 | 0.128 | 0.218*** | -0.093 | 0.048 | -0.081 | 0.239*** | -0.437*** |
| | (0.140) | (0.081) | (0.066) | (0.074) | (0.083) | (0.083) | (0.072) | (0.121) |
| Stratum FE | Y | Y | Y | Y | Y | Y | Y | Y |
| Controls | Y | Y | Y | Y | Y | Y | Y | Y |
| Observations | 1721 | 1721 | 1721 | 1716 | 1721 | 1721 | 1721 | 1721 |
| $R^2$ | 0.068 | 0.027 | 0.038 | 0.038 | 0.032 | 0.041 | 0.034 | 0.052 |
| Clusters | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| ControlMean | 1.7 | 1.3 | 1 | .98 | 1.4 | 1.5 | .96 | 2.4 |
| Ftest | .76 | .24 | .00082 | .15 | .0025 | .59 | .016 | .0077 |

*Notes*: This table summarizes the results from estimating Equation 1 with the number of buttons allocated to each of the eight most popular qualities of the good person as the outcome (the remaining four are not shown for legibility). The right-hand side includes dummies for the church and market treatment arms. Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

## Table A19: Treatment Effects on Child Values

| | Independence | Diligence | Tolerance | Thrift | Religion | Generosity | Obedience | Self Control |
|---|---|---|---|---|---|---|---|---|
| Church | -0.008 | 0.117 | 0.143 | 0.061 | -0.027 | 0.059 | -0.212* | 0.082 |
| | (0.118) | (0.074) | (0.117) | (0.078) | (0.121) | (0.082) | (0.109) | (0.133) |
| Market | 0.154 | 0.031 | -0.004 | 0.121 | -0.338*** | 0.164* | -0.076 | 0.077 |
| | (0.110) | (0.071) | (0.113) | (0.084) | (0.107) | (0.088) | (0.111) | (0.120) |
| Stratum FE | Y | Y | Y | Y | Y | Y | Y | Y |
| Controls | Y | Y | Y | Y | Y | Y | Y | Y |
| Observations | 1727 | 1727 | 1727 | 1727 | 1727 | 1727 | 1727 | 1727 |
| $R^2$ | 0.082 | 0.069 | 0.035 | 0.064 | 0.037 | 0.052 | 0.039 | 0.042 |
| Clusters | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| Control_Mean | 1.3 | .53 | 1.4 | .74 | 3.1 | .9 | 1.8 | 2.3 |
| Market_v_Church | .14 | .29 | .18 | .49 | .0089 | .23 | .22 | .97 |

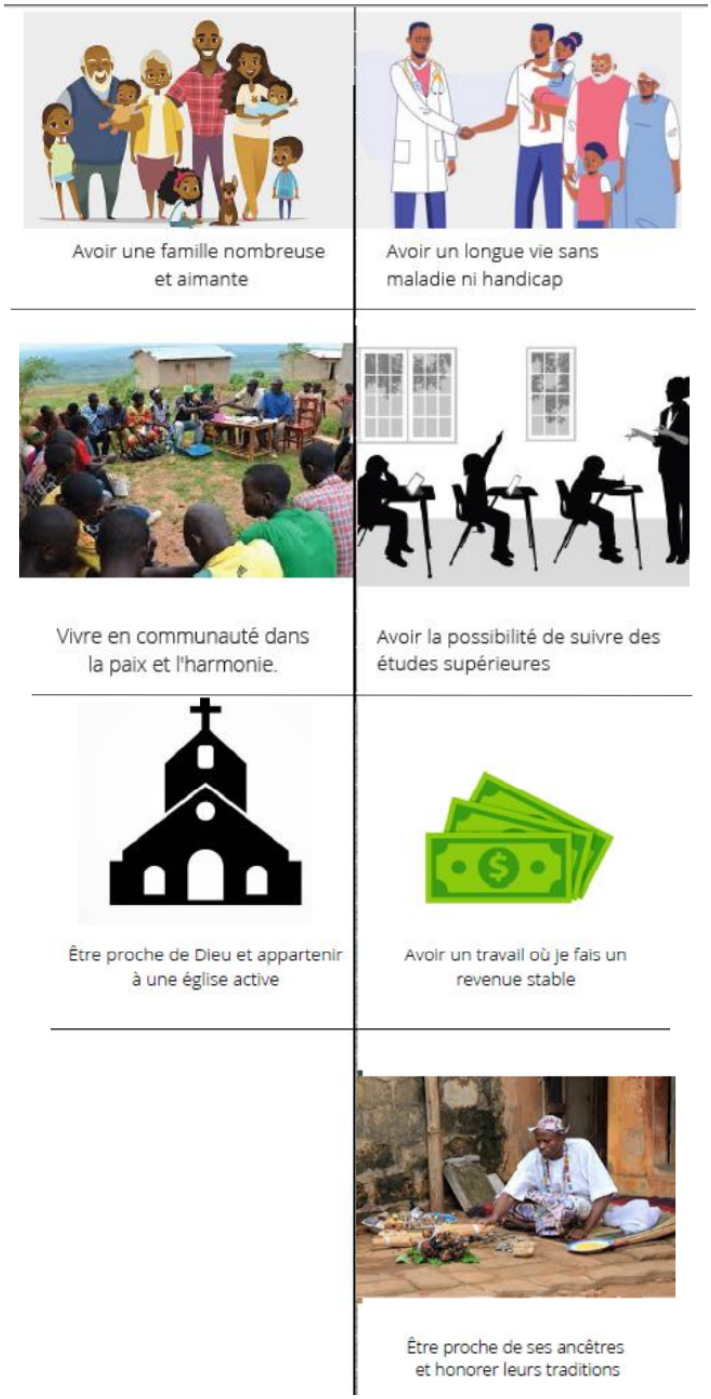
*Notes*: This table summarizes the results from estimating Equation 1 with the rank of the eight most popular values that children should be encouraged to learn at home as the outcome (the remaining four are not shown for legibility). The right-hand side includes dummies for the church and market treatment arms. Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

## Table A20: Treatment Effects on Religious Participation

| | Attend services | Other church activities | Pray privately | Discuss religion at home | Listen to religious radio | Index |
|---|---|---|---|---|---|---|
| Church | -0.041 | -0.009 | -0.008 | 0.239*** | 0.066 | 0.063 |
| | (0.046) | (0.127) | (0.048) | (0.088) | (0.102) | (0.062) |
| Market | 0.030 | -0.214 | -0.087* | 0.065 | 0.045 | -0.031 |
| | (0.041) | (0.136) | (0.046) | (0.087) | (0.097) | (0.061) |
| Stratum FE | Y | Y | Y | Y | Y | Y |
| Baseline Outcome | Y | Y | Y | Y | Y | Y |
| Controls | Y | Y | Y | Y | Y | Y |
| Observations | 1625 | 1623 | 1625 | 1623 | 1625 | 1621 |
| $R^2$ | 0.093 | 0.099 | 0.050 | 0.089 | 0.132 | 0.144 |
| Clusters | 300 | 300 | 300 | 300 | 300 | 300 |
| ControlMean | 4.6 | 3.7 | 5.3 | 2.6 | 3 | .0035 |
| Ftest | .096 | .13 | .12 | .055 | .85 | .15 |

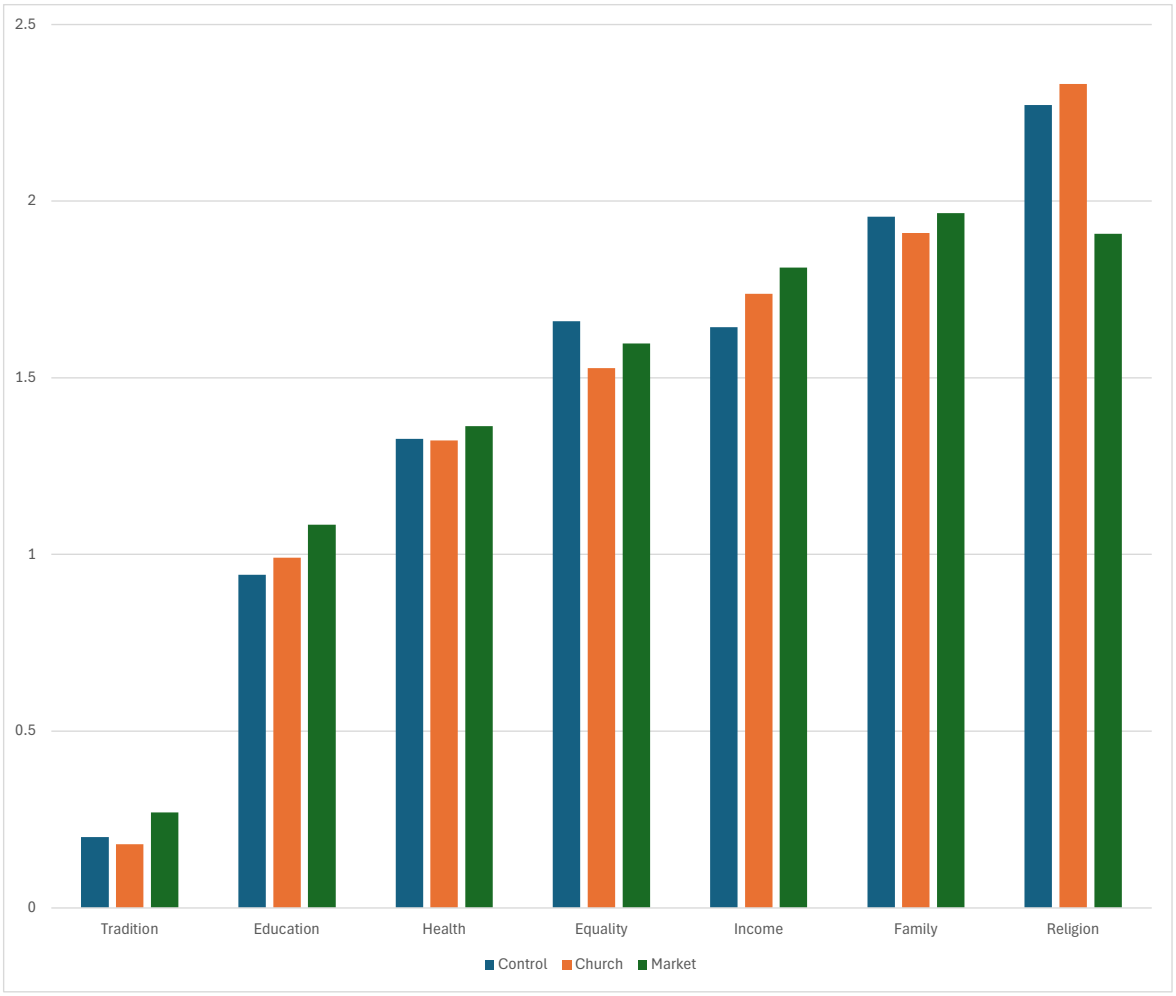
*Notes*: This table summarizes the results from estimating Equation 1 with questions about religious participation from the Springfield Religiosity Scale (Koenig et al., 1988) as the outcome. The right-hand side includes dummies for the church and market treatment arms. Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

## Figure A12: Good Life Decision Board



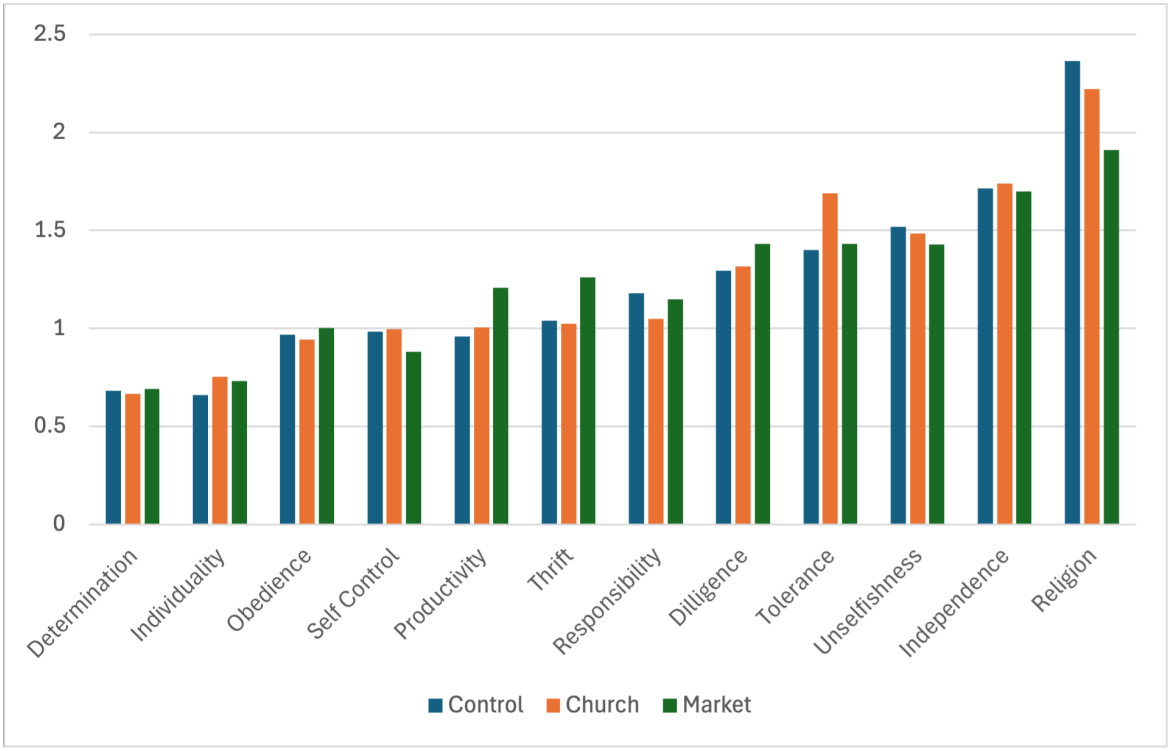

*Notes*: This figure shows a visual aid used by enumerators to elicit respondents' views of the components of a good life. Respondents were instructed to allocate ten buttons as they wish on the categories of the visual aid.

## Figure A13: Good Life: Endline Allocation



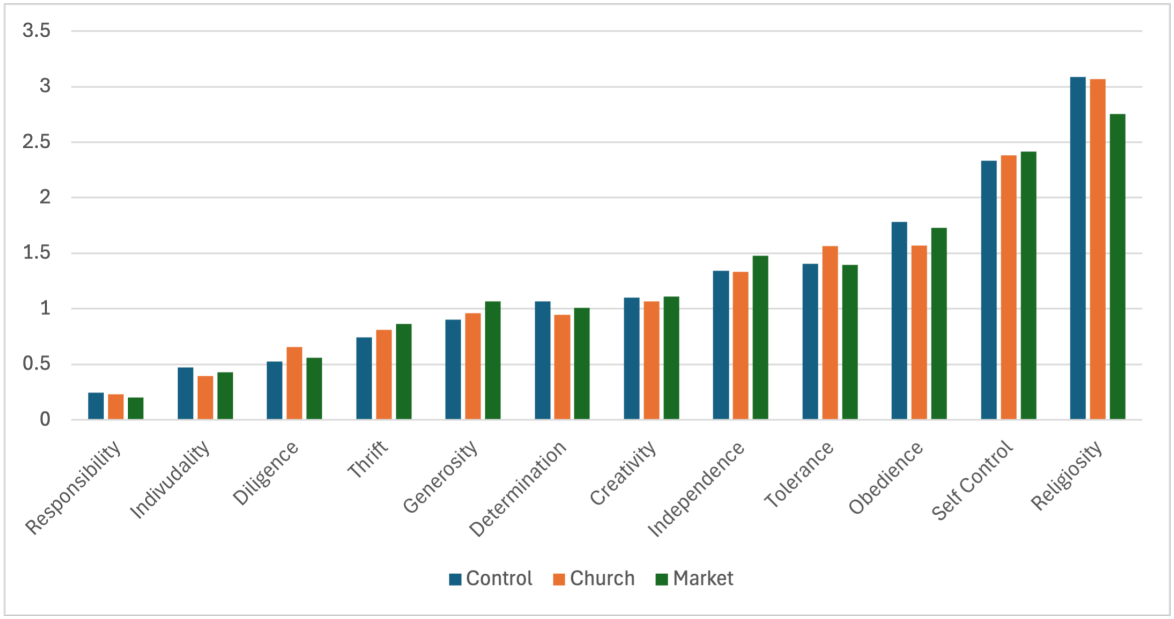

*Notes*: This figure shows the raw allocation of buttons across the categories for the prompt "I would like to ask you questions about what a 'good life' means for you. Please consider what you think the good life means in all domains of life: material, familial, emotional, spiritual. In your opinion, which factors are most important for living a good life?" Respondents had ten buttons to allocate however they chose.

## Figure A14: Good Person: Endline Allocation




*Notes*: This figure shows the raw allocation of buttons across the categories for the prompt "I would like to ask you questions about what a 'good person' means for you. Please consider what qualities are the most important to have in life. In your opinion, which factors are most important for being a good person." Respondents had ten buttons to allocate however they chose.

## Figure A15: Child Values: Endline Allocation




*Notes*: This figure shows the raw ranking of values in response to the prompt. "Here is a list of **qualities that children can be encouraged to learn at home**. Please first pick the five that are most important in your opinion. Then, please rank them in the order of importance."

## Table A21: Treatment Effects on Religious Participation — Heterogeneity by Sex

| | Attend services | Other church activities | Pray privately | Discuss religion at home | Listen to religious radio | Index |
|---|---|---|---|---|---|---|
| *Panel A: Men* | | | | | | |
| Church | -0.051 | -0.244 | 0.036 | 0.177 | 0.106 | 0.011 |
| | (0.068) | (0.164) | (0.071) | (0.127) | (0.134) | (0.087) |
| Market | 0.011 | -0.342** | 0.014 | 0.054 | 0.017 | -0.045 |
| | (0.060) | (0.167) | (0.069) | (0.126) | (0.127) | (0.080) |
| Observations | 782 | 781 | 782 | 782 | 782 | 781 |
| $R^2$ | 0.110 | 0.114 | 0.049 | 0.084 | 0.111 | 0.139 |
| Clusters | 300 | 300 | 300 | 300 | 300 | 300 |
| ControlMean | 4.6 | 3.8 | 5.3 | 2.9 | 3.5 | .21 |
| Ftest | .28 | .57 | .75 | .34 | .53 | .52 |
| *Panel B: Women* | | | | | | |
| Church | -0.031 | 0.228 | -0.041 | 0.299** | 0.016 | 0.117 |
| | (0.056) | (0.160) | (0.063) | (0.120) | (0.139) | (0.079) |
| Market | 0.041 | -0.098 | -0.176*** | 0.082 | 0.059 | -0.017 |
| | (0.048) | (0.174) | (0.064) | (0.110) | (0.138) | (0.079) |
| Observations | 843 | 842 | 843 | 841 | 843 | 840 |
| $R^2$ | 0.111 | 0.123 | 0.095 | 0.095 | 0.089 | 0.138 |
| Clusters | 300 | 300 | 300 | 300 | 300 | 300 |
| ControlMean | 4.6 | 3.5 | 5.3 | 2.4 | 2.6 | -.18 |
| Ftest | .22 | .052 | .056 | .08 | .77 | .11 |
| Stratum FE | Y | Y | Y | Y | Y | Y |
| Baseline Outcome | Y | Y | Y | Y | Y | Y |
| Controls | Y | Y | Y | Y | Y | Y |

*Notes*: This table summarizes the results from estimating Equation 1 with questions about religious participation from the Springfield Religiosity Scale (Koenig et al., 1988) as the outcome. The first panel shows results for men, and the second panel shows results for women. The right-hand side includes dummies for the church and market treatment arms. Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

## Table A22: Treatment Effects on Intrinsic Religiosity

| | Serving God | God's Presence | God's Guidance | Index |
|---|---|---|---|---|
| Church | 0.104 | 0.010 | -0.005 | 0.031 |
| | (0.069) | (0.073) | (0.079) | (0.074) |
| Market | -0.053 | -0.016 | 0.027 | 0.009 |
| | (0.074) | (0.075) | (0.073) | (0.070) |
| Stratum FE | Y | Y | Y | Y |
| Baseline Outcome | Y | Y | Y | Y |
| Controls | Y | Y | Y | Y |
| Observations | 1619 | 1251 | 1621 | 1242 |
| $R^2$ | 0.037 | 0.034 | 0.042 | 0.055 |
| Clusters | 300 | 297 | 300 | 297 |
| ControlMean | 2.8 | 2.1 | 2.6 | -.031 |
| Ftest | .025 | .71 | .68 | .75 |

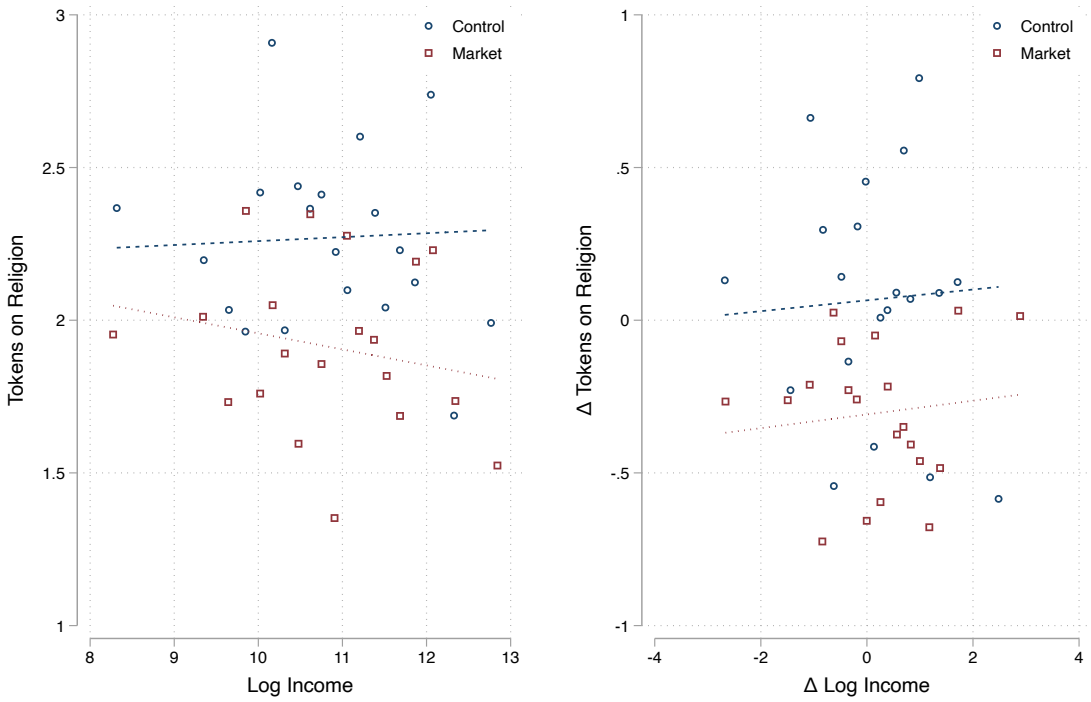
*Notes*: This table summarizes the results from estimating Equation 1 with questions about intrinsic religiosity from Allport and Ross (1967) as the outcome. The right-hand side includes dummies for the church and market treatment arms. Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

## Table A23: Treatment Effects on Extrinsic Religiosity

| | Comfort | Relief and protection | Community | Make friends | Index |
|---|---|---|---|---|---|
| Church | -0.018 | 0.007 | -0.082 | 0.155* | 0.053 |
| | (0.053) | (0.050) | (0.084) | (0.085) | (0.066) |
| Market | 0.069 | 0.008 | 0.110 | 0.173* | 0.124* |
| | (0.055) | (0.054) | (0.085) | (0.089) | (0.067) |
| Stratum FE | Y | Y | Y | Y | Y |
| Baseline Outcome | Y | Y | Y | Y | Y |
| Controls | Y | Y | Y | Y | Y |
| Observations | 1625 | 1625 | 1625 | 1621 | 1621 |
| $R^2$ | 0.055 | 0.045 | 0.105 | 0.114 | 0.144 |
| Clusters | 300 | 300 | 300 | 300 | 300 |
| ControlMean | 1.3 | 1.3 | .39 | -.75 | .0035 |
| Ftest | .11 | .98 | .02 | .83 | .28 |

*Notes*: This table summarizes the results from estimating Equation 1 with questions about extrinsic religiosity from Allport and Ross (1967) as the outcome. The right-hand side includes dummies for the church and market treatment arms. Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

## Figure A16: Religious Values and Income




*Notes*: This figure shows the relationship between the relative importance of religion and total monthly household log income at endline. The left panel is in endline levels, while the right panel is in changes (from baseline to endline).

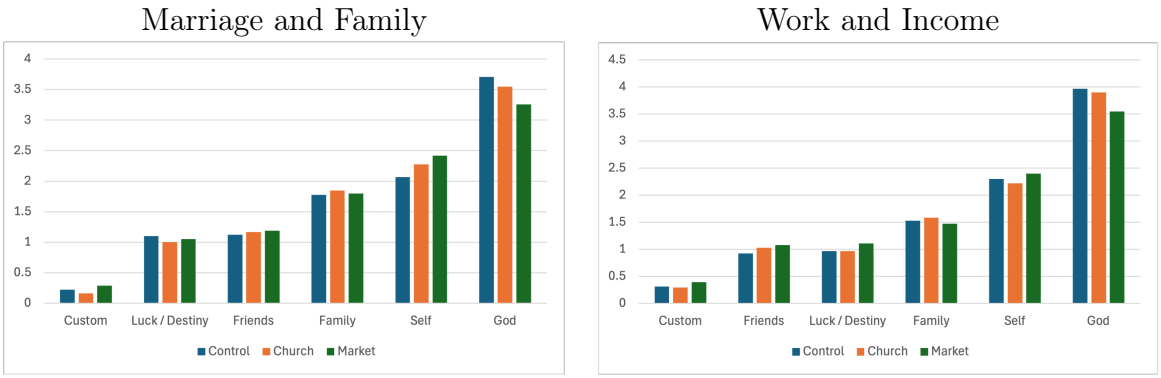
## Table A24: Treatment Effects on Expected Altruism (CYDG)

| | Nuc. Fam | Ext. Fam | Christian | Own Tribe | Other Tribe | Own Denom. | Other Denom. | Own Church |
|---|---|---|---|---|---|---|---|---|
| Church | 0.215 | 0.007 | -0.024 | 0.096 | 0.093 | -0.336* | 0.001 | 0.286 |
| | (0.190) | (0.186) | (0.182) | (0.151) | (0.138) | (0.188) | (0.160) | (0.287) |
| Market | 0.333* | 0.190 | -0.351* | -0.108 | 0.184 | -0.197 | -0.138 | -0.090 |
| | (0.191) | (0.182) | (0.186) | (0.145) | (0.155) | (0.184) | (0.148) | (0.289) |
| Stratum FE | Y | Y | Y | Y | Y | Y | Y | Y |
| Controls | Y | Y | Y | Y | Y | Y | Y | Y |
| Observations | 1728 | 1728 | 1728 | 1728 | 1728 | 1728 | 1728 | 1728 |
| $R^2$ | 0.073 | 0.057 | 0.035 | 0.044 | 0.033 | 0.053 | 0.081 | 0.072 |
| Clusters | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| ControlMean | 8.7 | 7.6 | 7.6 | 5 | 3.7 | 5.6 | 3.7 | 6.6 |
| Ftest | .51 | .32 | .086 | .13 | .53 | .4 | .35 | .15 |

*Notes*: This table summarizes the results from estimating Equation 1 with the results from the choose your dictator game (CYDG) as the outcome. The outcome variable is the average ranking of the indicated other party among the list of 12 possible: nuclear family member, extended family member, person in Kananga, person in village, Christian, non-Christian, member of own tribe, member of other tribe, member of own denomination, member of other denomination, member of own church, and person who does not go to any church. The right-hand side includes dummies for the church and market treatment arms. Controls include the baseline outcome and other baseline variables summarized in Section 5.2. The $p$-values for $F$-tests comparing differences between the coefficients on the aforementioned treatment dummies can be found in the bottom rows. SEs are clustered at the village level.

# A7 Additional Exhibits — Results: Psychology

## Figure A17: Forces Influencing Private Life and Work




*Notes*: This figure shows the distribution of allocations indicating respondents' views on the forces that influence one's life. The left-hand panel shows results concerning the "happiness and harmony you experience in your marriage and in your family," and the right-hand panel shows results concerning forces that shape "the choice of work and amount of income that you have today."