Markets and the Making of 'Modern' Sensibilities? Experimental Evidence from Sub-Saharan Africa*

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1 Introduction

This project seeks to provide causal evidence to bear on three classic social science theories concerning how markets shape values. We study the randomized rollout of a program promoting market access in rural villages in the Democratic Republic of the Congo (DRC). Implemented by a local NGO called Congo Helping Hands (CHH), this 'City Access Program' (CAP) provides regular weekly transportation by motorbike taxi to the largest market in the city of Kananga to individuals living in rural villages surrounding the city. Each week, villagers can sell and buy goods there as they please. We leverage the random assignment of this program as a source of exogenous variation in access to markets.

In the first part of the analysis, we empirically assess whether markets are value laden. The assumption that markets are value neutral is crucial to welfare analysis in economics. If markets have independent impacts on individuals' values and preferences, then standard approaches in economics would need to be rethought. We use the random assignment of CHH's program to investigate this issue.

In the second part of the analysis, we test three classic hypotheses about markets in social sciences: (1) markets make humans more trusting, more trustworthy and more likely to view social interaction as a positive-sum game (the *doux-commerce* thesis); (2) markets make

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humans into *homo economicus*, self-interested utility maximizers who become more detached from their communities; (3) markets make humans feel poorer by raising the standards of material wealth that is perceived to be necessary for happiness (the *Rousseau hypothesis*).

2 Background and Setting

The study takes place in the city of Kananga, in the Kasa̋i 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 Kasai Central. Transport infrastructure in Kasa̋i Central is in severe disrepair, due to heavy rain and a lack of maintenance. As a result, 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 simply remain in their villages. Congo Helping Hands' City Access Program was designed to help solve this problem.

3 Data

3.1 Research Design

We study Congo Helping Hands' City Access Program, which aims to increase access of rural villages to Kananga. The program provides personalized round-trip transportation to and from Kananga for individuals living in rural villages around the city.[1] The City Access Program provides participants with transportation directly to Kananga's central market and are invited to transport goods if they like, or to buy products they could resell in the village.[2]

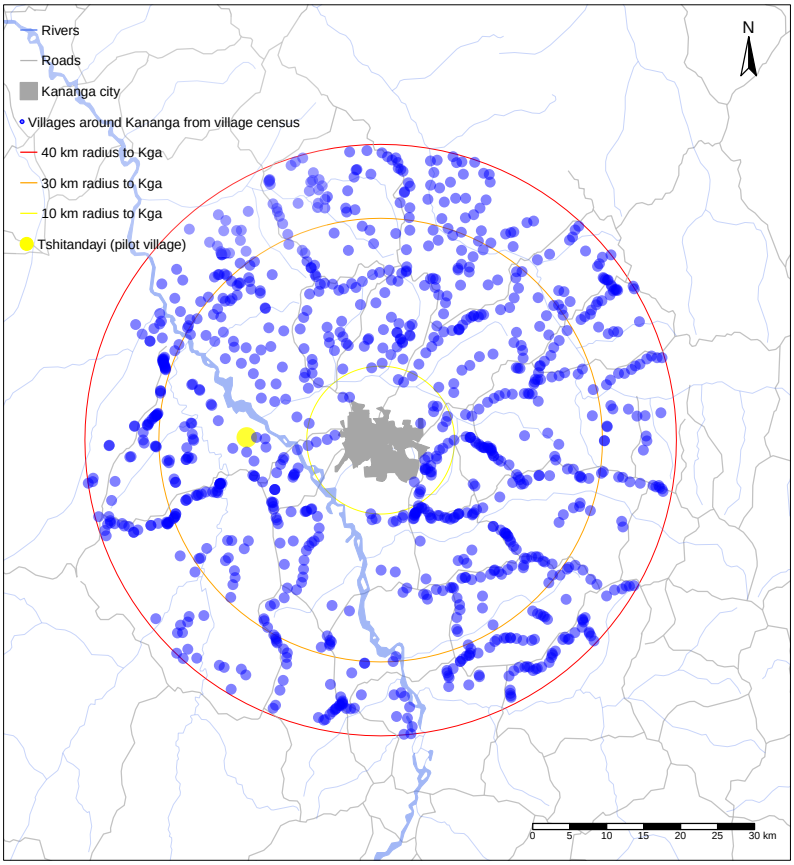
CHH agreed to randomize villages into their program or to a control group of otherwise similar villages. We collaborated with CHH to achieve a randomization that will enable an impact evaluation of the program. Sampling of respondents and random assignment of villages into the treatment arms occurs in several steps. First, using satellite data and driving time data, we identified all villages that are less than a 3-hour drive from the city's limits. We conducted a village census to collect basic information such as village size and accessibility (Figure 1). We then 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 (where access to services found in cities is especially

[1] The treatments are similar to the transport subsidy analyzed by Abebe et al. (2021), with the key difference that we study rural-to-urban transport rather than transport within cities.

[2] In a separate arm of the program, individuals receive transportation along with an invitation to join an urban church congregation. However, we limit our analysis to the program that brings rural villagers to urban markets.

limited), and (*iii*) continual settlement all year round (rather than only during harvest season, e.g.). We selected the 300 villages that are closest to Kananga by straight line distance, but further than 10 km from the city centre, that fulfilled these criteria.

Figure 1: Map of village census around Kananga



This map shows the 988 villages mapped in our village census.

Second, in all eligible villages, our enumerators randomly sample households and invite them to participate in a baseline survey. Enumerators follow a village-specific house skip pattern to conduct a screening survey. Based on the screening survey, we randomly select main respondents for the baseline survey. Since the CHH program works with couples, we randomly select three couples, i.e. six main respondents per village.[3]

To enable estimation of spillovers, our enumerators also conduct a shorter baseline survey with additional individuals with and without connections to the main respondents. They interview (*i*) one close friend of the main respondents, as revealed in a social network module, and (*ii*) two additional randomly sampled individuals without connections to the main

[3]Note that this sampling approach generates random variation in the share of the population that is treated. We will use this random variation to explore if treatment and spillover effects are more pronounced if a larger share of the village is treated.

respodents in each village.[4] The survey will enable us to estimate spillover effects on non-participating individuals connected through social networks to participating individuals as well as more generalized spillover effects on individuals sampled randomly in the village.

Third, we randomly assign villages to the two treatments or to control. We stratify the randomization on (*i*) distance from Kananga, and (*ii*) village size.[5] Once the treatments are randomly assigned at the village level, CHH staff invite the main respondents to participate in their program. Table 1 summarizes the numbers of participants across all treatment arms. There are 100 villages in treatment and in control. With six main respondents, up to six network respondents, and two pure control respondents in each village, we expect a full sample size of around 2,800.

To shed light on mechanisms, we randomize the location of selling at the market at the village level. The 'retail' and 'wholesale' sub-treatment arms should introduce further variation in wholesale and retail selling, the number of interactions with customers, and the probability of having repeat customers.

Table 1: Allocation of units across treatment groups

	Urban market treatment	**Pure control**
Main Respondents	600	600
Network Respondents	600	600
Non-Network Respondents	200	200
Total Respondents	1,400	1,400
Villages (clusters)	100	100

Finally, we plan to collect an endline survey in all villages with the same set of 2,800 respondents sampled at baseline. These surveys will be conducted roughly six months after the conclusion of the CHH program (in treatment villages and nearby control villages).

3.2 Other Data

We collect additional data to study mechanisms and alternative hypotheses:

1. Administrative data on the City Access Program collected by Congo Helping Hands staff. These include weekly data on attendance and other details on participation (e.g., the goods bought and sold).

[4] All of these surveys occur before villages are assigned to treatment or control, allaying concerns that enumerators' sampling or respondents' availability could be endogenous to treatment.

[5] Note that this generates geographical variation in distance to other treated and control villages. We will use this random variation to explore spillover effects across villages.

2. Village census around Kananga. Collected by our enumerators, these data provide information about the location and amenities in villages around Kananga.
3. Chief village survey. Collected by our enumerators, these surveys ask the chief about the village and its history.

4 Analysis

The project's goal is to study the causal effects of access to larger markets on rural individuals' values. The City Access Program of Congo Helping Hands provides a rare opportunity to make progress on this topic. We begin by assessing the degree to which markets are value laden, in general, before testing three long-standing hypotheses about markets and values.

4.1 To what extent are markets value laden?

We begin by asking to what extent exposure to markets shapes core values. The motivation for this analysis is that the standard approach in economics takes preferences of market participants as given. Markets are assumed to be value-neutral and must be organized to maximize efficiency in light of individuals' exogenous preferences. However, philosophers from Amartya Sen to Michael Sandel have questioned this assumption and instead argued that markets may influence individuals' values and preferences. The stakes in this debate are high. If markets impact values, then it is no longer possible to view markets as neutral tools that help increase social welfare.

To our knowledge, credible quantitative evidence assessing whether markets are, or are not, value laden remains scarce. We hope to fill this gap by studying how exposure to markets changes human values across a wide range of domains. We will first use a vignette about redistribution choices to study whether exposure to markets can alter the support for policies. We will then elicit people's view on "the good life" and collect their views on several normative topics, from the role of women in the family and society to the acceptability of violence. We also elicit participants' views on democracy and the appropriate role of government in society. Finally, we examine whether exposure to markets changes participants' relationship to the divine. We will separately study the answers to these questions separately, but we will also create a synthetic index and quantify how responsive it is to market exposure.

In sum, this field experiment offers a way to assess the extent to which market exposure shapes values and preferences. We hope this analysis will help understand the degree to which standard welfare analysis of markets may be biased by the endogeneity of individuals' preferences and wants.

Next, we examine three social science theories about markets and values.

4.2 Markets and morality: the *doux-commerce* thesis

First, the program will allow us to provide causal evidence regarding the role of markets in expanding universal morality, in making individuals more trusting of anonymous strangers, and in fostering views of the world that are "positive-sum."

Going back to Baron de Montesquieu, Adam Smith, and David Hume, a long intellectual tradition in western social theory — sometimes known as the *doux commerce* thesis — posits that markets and trade fundamentally change people's dispositions and morals, rendering them more trusting and trustworthy, more open to people who are different, and more punctual and polite (Hirschman, 1982).[6] More recently, Henrich et al. (2001, 2010) argue that markets contribute to prosociality and trust around the world by creating opportunities for contact and exchange between strangers and otherwise distinct social groups. Empirically, they show that among a series of small-scale societies around the world, market integration — the number of calories participants consume that were purchased on the market rather than grown — is a strong predictor of prosociality. Rustagi (2021) outlines an alternative mechanism behind the association between markets and prosociality: when product quality is difficult to ascertain by observable characteristics, sellers have incentives to cultivate a reputation as a trustworthy type and thus develop longer-term repeated exchange relationships with buyers. He provides evidence consistent with this mechanism by looking at historical meat markets in Ethiopia.

By comparing the morality and prosociality of participants in our market treatment arm to those in control, we can provide experimental evidence on the *doux commerce* thesis. Moreover, additional experimental variation in our design will help us distinguish between the competing channels noted above — ephemeral contact with strangers or incentives to develop a good reputation because of repeated exchange — through which markets could promote prosociality. Specifically, among villages assigned to the market arm, half of villages are assigned to be 'wholesale' sellers and half to be 'retail' sellers. In the wholesale group, the CHH participants are provided with transportation to one of Kananga's largest markets where they have the opportunity to sell their goods on the side of the street or by walking around to find customers.[7] In the retail group, by contrast, CHH participants have the opportunity to sell their goods inside the market where they have a dedicated market stall. These sub-treatments were designed to introduce exogenous variation in (a) the number of total buyers, and (b) the number of repeated customers with whom participants interact. We plan to use this variation to adjudicate between the 'ephemeral contact' and the 'repeated customer'

[6] By way of illustration, Montesquieu wrote "Commerce ... polishes and softens barbaric ways as we can see every day," quoted in Hirschman (1982). Similarly, Thomas Paine, in The Rights of Man (1792), wrote "[Commerce] is a pacific system, operating to cordialise mankind, by rendering Nations, as well as individuals, useful to each other... The invention of commerce ... is the greatest approach towards universal civilization that has yet been made by any means not immediately flowing from moral principles," also quoted in Hirschman (1982).

[7] Such ambulatory sellers are by far the most common type of goods/produce vendors in Kananga.

channels.

Furthermore, access to markets could shape the extent to which people view the world as zero sum, positive sum, or neither. Foster (1965) for instance argues that residents of isolated villages in Mexico perceived the world as having 'limited good.' Moving to market settings could shake people from these zero sum beliefs. Indeed exposure to markets — an archetypal positive sum activity — could decrease the extent to which participants view the world as zero sum. We will examine this possibility using the experimental variation created by CHH's program.

We measure prosociality at endline through standard survey questions (about trust, for instance) and behavioral games, including dictator games and a cheating game. To elicit universal morality, we will examine different iterations of these games conducted with "other players" who are closer and further to the respondent (i.e., the amount allocated to family versus a stranger). We measure "zero-sum" beliefs through a series of survey modules we pre-tested in this context in 2015.

4.3 Markets and the making of *homo economicus*

Another classic theory since at least Marx and Durkheim is that the rise of markets essentially transformed humans into *homo economicus*, i.e., self-interested, optimizing individuals. According to this view, in small-scale societies without market economies, people were more collectivistic and less individualistic. By contrast, the rise of market society promoted the idea of individual happiness — an objective to be achieved by maximizing consumption of goods and services — as a good to which people should aspire, even when it is at the expense of the common good. The flip-side of the emergence of *homo economicus*, according to many thinkers in this tradition, is the erosion of community (Sahlins, 1998; Marglin, 2008) and associated feelings of "alienation" or "anomie."[8] This view is not necessarily inconsistent with the idea that markets foster prosociality with anonymous strangers: market participants may at the same time feel alienated from their local communities and more willing to trust anonymous strangers.

We aim to test this hypothesis by exploiting the exogenous increase in exposure to markets created by CHH's program. We will measure individualism at endline using survey questions, including hypothetical scenarios that involve a clear tradeoff between the happiness of an individual and the social harmony of the community (e.g., divorce, parenting choices) as well as questions about self-determination and how respondents describe the good life. We will also examine how much money respondents allocate to others in their community (rather than

[8]Indeed, the first social scientific inquiry into the roots of suicide focused on perceived ills of urban market society (Durkheim, 2005). However, these authors were focused on the broad transformation of 'premodern' society into an industrial market society, and it is unlikely that exposure to large goods markets in the city would have similar effects.

to themselves) in behavioral games. To assess the extent to which individuals feel alienation, we will ask them questions about their social network as well as how "close" they feel to different potential communities to which they might belong. We also ask questions about mental health directly. To supplement these stated views, we also collect information about real outcomes: i.e., recent disagreements within families and communities, the number of people on which respondents depend in difficult times. Further, we assess participants' civic and political participation — in elections as well as local public goods provision — as another indication of the revealed value of community in their lives. Finally, we are able to use CHH program data to observe if participants exhibit patterns consistent with optimizing in the treatment arm, e.g., shifting the products they sell toward more profitable products over time or according to seasonal variation.[9]

4.4 Markets and perceived 'needs'

Another influential line of thought, going back at least to Rousseau's 1752 book, the "Discourse on Inequality," points out that exposure to markets may lead people to rethink their views on what is "needed" to achieve material wellbeing. Rousseau points out that by being routinely exposed to products, people may increasingly perceive them to be necessary for happiness. He writes: "Since these conveniences by becoming habitual had almost entirely ceased to be enjoyable, and at the same time degenerated into true needs, 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." More recently, Galbraith (1998) similarly expresses worries about an economy where "wants are increasingly created by the process by which they are satisfied." Thus, even though markets may lead to greater incomes, they may at the same time increase participants' expectations relative to reality. Exposure to markets could thus make participants feel poorer and envious of those with more wealth and income.

To test this hypothesis, we will collect participants' stated views on the importance on money and materialistic pursuit, as well as their views on the gap between their expectations and their current situation. We will also elicit information about envy and contentment. Together, these outcomes will allow us to test if expanding market access causes an increase in participants' perceived needs.

5 Heterogeneity

We plan to investigate the following as sources of heterogeneity in the impact of the CAP on outcomes:

[9] Unfortunately, we will not have comparable data on the control arm, so this analysis will be more descriptive.

1. *Distance to Kananga.* The City Access Program is more of a shock to villagers' access to Kananga in more remote villages. We therefore anticipate larger treatment effects farther from Kananga.

2. *Market landscape in the village.* Participants vary in their baseline access to markets. We expect more pronounced treatment effects of the market arm where participants had less access to markets before the CAP. We will use data from our initial village census as well as baseline surveys to measure market access.

3. *Agricultural productivity.* Among the villages participating in the CAP, there are different climatic zones with variable suitability for different crops that can be sold in Kananga. We have natural variation in these crop suitabilities and the seasons during which the CAP was running. We can use this variation to study whether villages in zones with suitabilities for more lucrative crops conditional on the season exhibit more pronounced treatment effects.

4. *Exposure to Kamuina Nsapu.* A recent violent conflict, known as the Kamuina Nsapu insurgency, triggered large-scale displacement and claimed thousands of lives. We expect impacts of the program on welfare to be more pronounced in areas that were more affected by this violent conflict.

5. *Time gap before endline survey.* Because of the staggered rollout of the intervention and endline survey, there will be natural variation in the time gap between the two. We will use this variation to study whether treatment effects decay or persist over time.

6. *Duration and frequency of attendance.* We expect stronger effects where participation was exogenously higher. Although participation may often be endogenous, we will explore exogenous shocks like weather, pregnancy, and family deaths as exogenous shifters of participation to obtain variation in treatment intensity.

7. *Village size.* We have natural variation in the size of villages and thus the share of the village that is treated by the CAP. We can use this variation to study spillovers to non-participants in the treatment village. For instance, we can assess whether such spillovers are larger when a larger share of the village is treated, and whether we find evidence for tipping-point effects.

8. *Age.* Research often finds that children and young adults are more plastic in their beliefs than the elderly. Although we do not have children or young adults in our sample, we

will examine whether younger participants are similarly more responsive when examining belief outcomes.

9. *Gender.* Women and men often have distinct economic roles. For instance, in focus groups, we learned that some agricultural products are typically sold by women, while others are typically sold by men. This means that the market arm might have differential effects by gender — if for instance the type of customers with whom men and women interact in the city different because of the products they sell (or for some other reason). We will therefore explore gender heterogeneity.

10. *Market performance.* We will also study heterogeneity depending on the level of profit attained by the participants.

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