ECON2020 - Final Project
Paper - Some Exploratory Analyses of "Urbanisation and urban networks: evidence from the DR Congo" RCT Data

A Foutelet

17 avril 2024

1 Motivation

In the Congo, market economy and religious solidarity networks are two urban institutions inaccessible to people from the countryside. Both appear to value success through business. While urbanisation tends to accelerate in Africa, studying the effect of these two institutions on people and their communities is necessary.

I was involved in a project focusing on them, while a Predoctoral Research Associate during two years for Jonathan Weigel, Nathan Nunn, and James Robinson. During the first year of my contract, I was dispatched in Kananga, Central-Kasaï, DRC, to work as field research manager for the RCT "Urbanisation and urban networks networks : evidence from the Congo, ongoing RCT". This was a USD 1.5 million project that stretched over three years and that finished less than six months ago. Our team almost finished cleaning the Baseline and Endline data so I was able to make one of the first uses of the data for my project.

From Montesquieu and Paine, who argued that commerce had the potential to bring peace and harmony, to Rousseau and Marx who saw it as corrupting mankind, or Polanyi, who theorised the mutual mounting of all social interactions and market economy, the literature on the effects of markets on societies is dense and ambivalent. Same for religion : compare for example Marx, for whom religion distracts the masses away from structural of the capitalists, with Weber, who argued that Protestantism was a key channel of growth through rationality.

The research question I will help addressing is : Do the access to urban markets and churches have long run effects on the income of individuals and the conflicts they are involved in ?

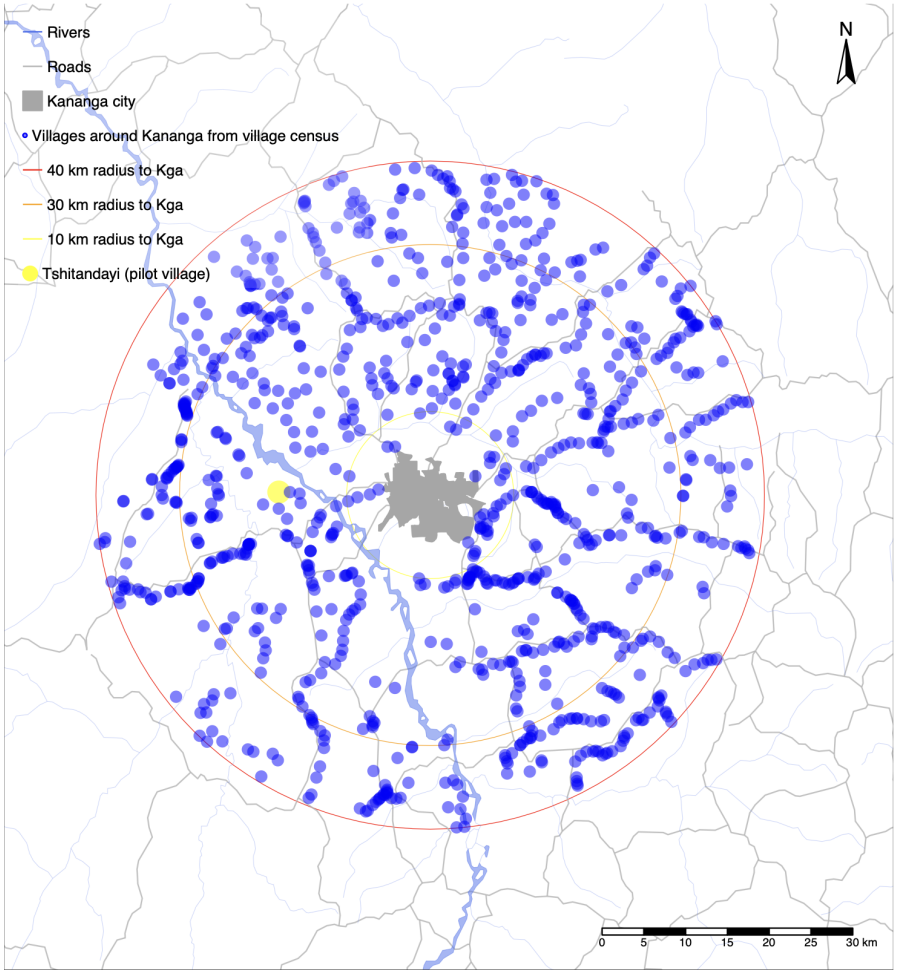
2 Data

The RCT involved the screening of about 1000 villages located in a 40km radius around Kananga. The area had never been covered by a census, a community screening or a path cartography before. It involved the surveying of about 6000 individuals multiple times.

The RCT involved 1200 participants in ten waves, a control group of 600 people, their networks of 1800 friends and 300 customary chiefs. They were scattered in 300 randomly selected villages.

The treatment consisted in offering to randomly selected participants the opportunity to come to Kananga once a week over six months. The treatment was devided in two arms. In the first arm, people would be offered to participate to an urban market and to receive help to bring goods with them. In the second arm, people would be offered to attend a church services.

An individual's endline survey took place six months after the day this individual's treatment ended, which corresponds to twelve months after this individual's treatment started.



I focus on the following outcome variables :

— 'income' - label : 'What was the household's total earnings (in FC) this past month ?'

— 'market_sale_total' - label : 'How much money (in FC) do you make from selling in a typical week ?'

— 'rosca_amt_gives' - label : 'On average, how much money (in FC) do you contribute to the ROSCA(s)'

— 'discord_[spouse]_num' [resp. 'family', 'village'] - label : 'In the last three months, how many times did you have major arguments with [your spouse or partner] ? [resp. 'somebody in your family', 'somebody in your village"

The choice of these variables is consistent with intuitive mechanisms : do markets have greater long-run effects on income than churches ? are the long-run effects of the program at play through variations in business-oriented behaviours ? savings oriented behaviours ? interpersonal conflicts ?

3 Analysis

To account for the effect of access to city and then the separate effect of urban markets and urban church networks, I run my analyses for both arms together and for each arm separately. To account for spillover effects on the rural communities, I replicate the analysis on the friends in all groups.

I estimate the following equation using OLS :

$$y_{ivw} = \alpha + \beta_1 T_{ivw} + \beta_2 y^0_{ivw} + X'_{ivw}\beta_3 + \Gamma_w + \epsilon_v$$

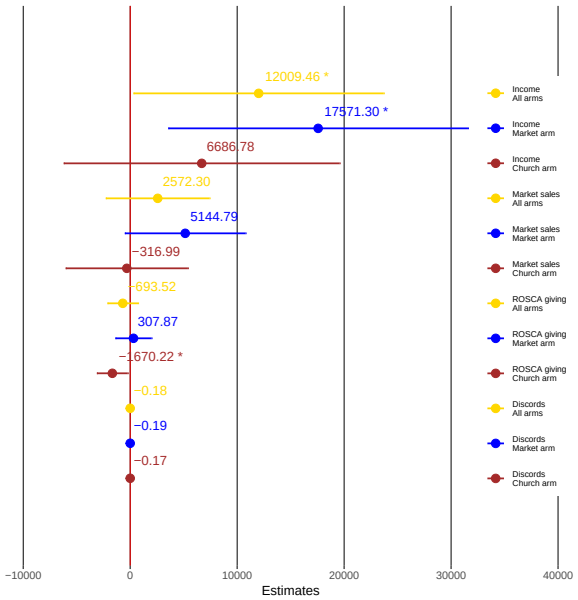
where i indexes individuals ; w indexes waves ; T_{iw} is an indicator variable equal to 1 if the individual was treated and equal to 0 if the individual is in the control group, meaning that β_1 estimates the average causal effect of the treatment on the outcome of interest y_{iw}. I control for the outcome of interest at baseline y^0_i and individual-level covariates X_{iw} (age, sex, and distance to Kananga). I use wave fixed effects Γ_w. I cluster standard errors ϵ_v at the village level.

The table shows my results for the series concerning both arms together. Urbanisation significantly affects long term income positively. It does not significantly affect the other long term outcome variables.

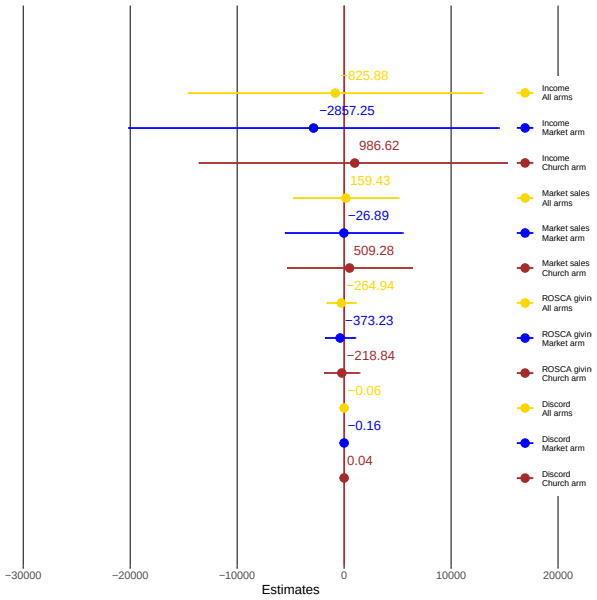
The figures show the average causal effects of the treatments on each outcome variable. There is one figure for the effect on participants and one figure for the spillover effects.

	Monetary income	Market sales	ROSCA contributions	Village discord
treated	12009.462*	2572.299	-693.521	-0.177
	(5944.382)	(2465.453)	(725.722)	(0.117)
income_BL	0.350***			
	(0.062)			
age_BL	262.429	-172.927+	-53.018+	0.002
	(214.452)	(91.399)	(28.678)	(0.004)
sex_BLFEMALE	-7793.951+	-9389.637***	-4963.728***	-0.073
	(4694.036)	(2178.648)	(679.012)	(0.090)
dist_kga	195.926	-76.903	109.178	-0.023+
	(689.080)	(303.263)	(82.125)	(0.014)
market_sale_total_BL		0.301		
		(0.204)		
rosca_amt_gives_BL			0.429***	
			(0.096)	
discord_num_BL				0.354***
				(0.056)
Num.Obs.	1720	1728	1728	1728
R2	0.104	0.082	0.136	0.068

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001



Urban markets significantly affects long term income positively. Urban churches significantly affects contribution to ROSCAs negatively. The sign of the latter estimate is ambiguous : urban church networks reduces solidarity in favour of people in the village ; it could be driven by a substitution in favour of people in the urban church network.



There is no spillover effect.

4 Next steps

These analyses are very basic. Notably, they would require the study of more covariates, which the surveys were complexly designed for.