



## Formalisation, social institutions, and development: Experimental evidence from the Democratic Republic of the Congo

Pablo Balán, Augustin Bergeron, Gabriel Tourek, and Jonathan Weigel

- We implemented a randomised controlled trial lowering the monetary and transaction costs of acquiring a formal land title in a population of 3,000 randomly sampled property owners in Kananga, a large city in the Democratic Republic of Congo.
- In Kananga, only 16% of properties had formal land titles, increasing tenure insecurity and potentially discouraging investment.
- The program caused a 44 percentage-point increase in the probability that property owners start the formalisation process and a 13.7 percentage-point increase in the acquisition of a formal land title.
- Demand for titles was higher among owners with higher income, education, and property value. It was lower in parts of the city run by customary authorities.
- We find evidence that the land titling program was shaped by and, in turn, affected participation in local informal institutions such as mutual aid groups, ROSCAs, and contributions to weddings and funerals.
- Conditional on randomisation, higher participation in informal institutions increased demand for titles. At endline, citizens assigned to the program reported less participation in these institutions, casting doubt on the notion that informal institutions provide an effective substitute for tenure security.

# An informal equilibrium

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## The puzzle of land formalisation

Well-defined property rights are a cornerstone of economic development (Acemoglu, Johnson, and Robinson 2001; North and Thomas 1973). Insecure property rights make individuals fear expropriation, depressing incentives to invest (Demsetz 1967; Field 2005). Without property titles, potential entrepreneurs are unable to use their land as collateral for formal financial sector loans (De Soto 2000). The absence of formal land ownership can also hinder the development of real estate markets and reduce labour supply (Besley 1995). Given the appeal of strengthening property rights, land titling programs have proliferated across the developing world. In 2005, the World Bank oversaw a portfolio of more than \$1 billion worth of land administration projects (Galiani and Scharrodsky 2011). However, despite these significant and sustained efforts, land formalisation remains persistently low in the developing world (Easterly 2007) and specifically in sub-Saharan Africa, where 90 percent of the land is not registered formally. With Africa experiencing rapid urbanisation, understanding this puzzle is a first-order task.

## Barriers to land formalisation: supply and demand

For one, low formalisation rates reflect supply-side factors. Citizens seeking formal land titles typically face high monetary and transaction costs. From a comparative perspective, African citizens face the highest cost of land registration and the lowest quality of land administration (World Bank Nd.). Kananga—the fourth largest city in the Democratic Republic of Congo and the setting of this research—is no exception. In a way, Kananga is a typical African city, with an urban and administrative centre built around the footprint of the colonial city, surrounded by an expanding patchwork-like periphery. As of 2017, only 16% of property owners in Kananga had official titles.

In Kananga, obtaining a formal land title is difficult and costly. On top of administrative costs, citizens must navigate considerable red tape and pay bribes to the two ministries responsible for the process. Including all administrative fees, citizens regularly pay \$1000 for the principal land title, while the official price is \$100. Given these high costs, it is not surprising that citizens choose not to formalise their land. However, qualitative evidence we collected before our study suggests that formal titles are highly valued, and some citizens go to great lengths to acquire them.

Above and beyond the high costs, some have proposed that low formalisation rates may reflect demand-side factors. The starting point is the observation that formalisation efforts do not happen in a vacuum: they take place against the background of existing social structures and institutions. In Africa, networks and

groups outside the formal state play a prominent role in public life. Citizens routinely participate in churches, mutual aid societies, and ROSCAs, and contribute to community events such as weddings and funerals. Comparative evidence shows that such institutions can provide informal insurance (Fafchamps and Lund 2003; Udry 1990), enabling citizens who take part in these informal arrangements to achieve tenure security (Bromley 2009; Deininger and Feder 2001). As a result, social institutions may function as an effective *substitute* for formal land property rights. In this view, citizens do not demand formal land rights because they can do without them.

## **A randomised controlled trial on land formalisation**

To study the adoption and effects of formal land property rights systematically, we designed a program in close collaboration with the Provincial Government of Kasai Central to increase access to formal land titles in Kananga. The goal of the program was to make land titling cheaper and easier. Specifically, this citywide land titling campaign lowered both the ticket price and the transaction costs of land formalisation (Balán et al. 2023).

- While individuals often pay \$1,000 or more for a title in Kananga, **the program capped household outlays to the official price of \$100.**
- Treated households were subsequently randomised into price subgroups **offering 0%, 25%, or 50% subsidies**, such that a third of treated households could acquire **a title for \$75 and \$50**, respectively.
- The program **cut the transaction costs of obtaining a land title** because government officials and program staff visited participants at their homes, eliminating the need for citizens to make frequent trips to the government offices.

In the context of this field experiment, we study two main questions:

1. Who demands formal land property rights in weak states?
2. What are the effects of urban land titling on social and economic outcomes?

Because the adoption of land property rights is typically endogenous to economic development and political decisions, studying these questions is particularly challenging. The design of the program allows us to tackle this challenge since we observe both program take-up and the effects of land titling.

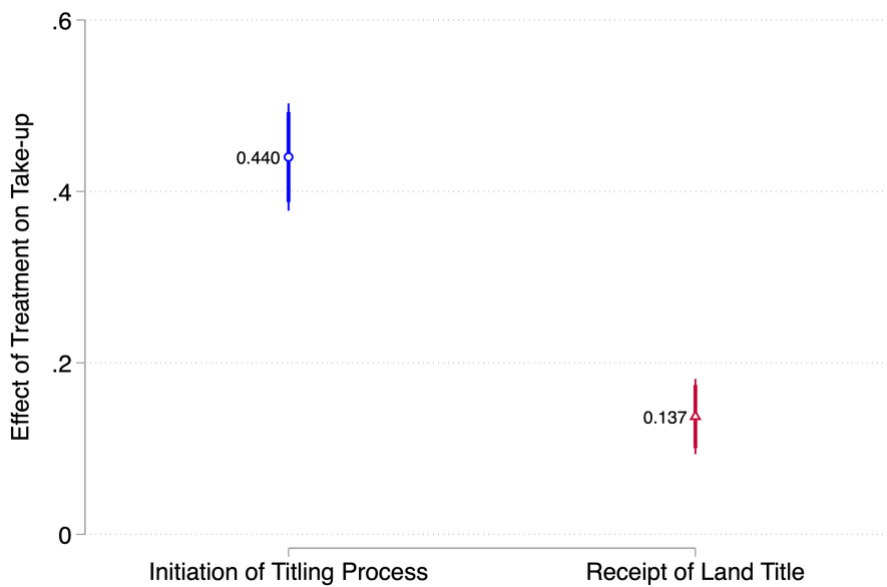
FIGURE 1: The cadastral archives and a surveyor measuring a respondent's plot.



## Results

### Increases in land titling demand and supply

FIGURE 2: Effects of the land titling program on the initiation of the titling process and receipt of land titles



The land titling program increased the probability of initiating the titling process (a costly outcome in itself) by 45 percentage points and the probability of obtaining a formal land title by 14 percentage points (Figure 1).

- Among control households, which were not randomly selected to receive the land titling program, very few attempted to get a title. Almost none were successful during the nearly two-year measurement period.
- Among treated households randomly assigned to the program, nearly half of the eligible households started the titling process by scheduling a home visit by government land surveyors.
- Treated property owners were **13.7 percentage points more likely to acquire a formal land title** compared to similar property owners in the control group.
- The slippage between initiation and receipt of titles reflects a combination of poor coordination across government offices, as well as deeper institutional factors creating weak, and at times perverse, incentives for bureaucrats.
- Demand was higher among richer, more educated households, and those with higher-value properties. Unsurprisingly, socioeconomic factors are highly predictive of demand for formal titling.

In sum, the large differences in receipt of titles between the treatment and control groups suggest that the ticket and transaction costs of land titling are critical constraints on land formalization.

### **Bureaucrats against formalisation?**

In Kananga, part of the reason why land titling is cumbersome stems from coordination problems between the two government agencies in charge of the process, the Land Titling and Cadastral offices, which often had different interpretations of legal and technical requirements for obtaining a land title.

However, this administrative burden might also reflect deeper factors. In many government bureaucracies, the agents who make up the state often have weak incentives to promote government efficiency and effectiveness. At times, bureaucrats create extra steps and procedures to produce opportunities to collect bribes—in exchange for skipping those extra steps and procedures (Banerjee 1997). Although at times these payments may be an informal way to “grease the wheels,” making up for low or late public wages, they are an inefficient and often regressive way to raise revenue and limit access to important public services.

In Kananga, citizens report paying well over \$1000 for titles that should only cost \$100. While we did not directly observe informal payments, bureaucrats in Kananga typically supplement their income with fees for various services they provide, suggesting that bureaucrats’ and citizens’ incentives are not aligned.

### Land property rights and social institutions

Because we observe the take-up of the program and its effects, our study provides a unique vantage point to systematically examine the relationship between land titling and social institutions. We find suggestive evidence that social institutions shape and, in turn, are themselves affected by land titling.

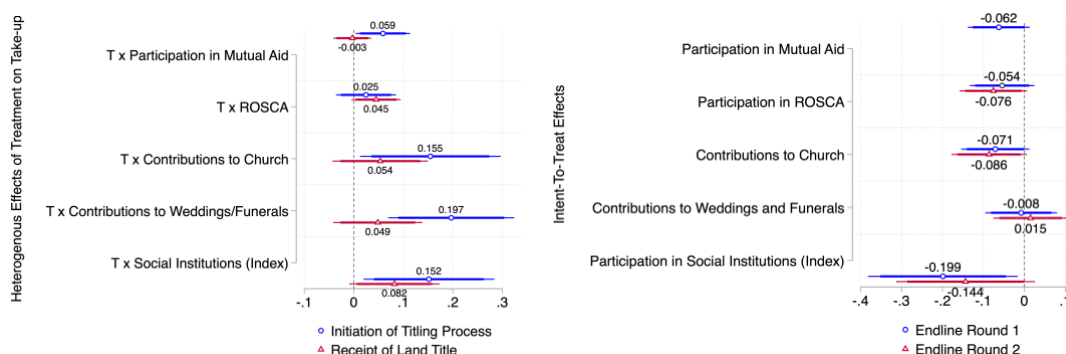
First, contrary to the view that predicts that participation in institutions of informal insurance would depress demand for formal titling, we find that demand for titling was, in fact, *higher* among property owners with higher baseline levels of participation in these institutions—such as ROSCAs, mutual aid groups, churches, and weddings and funerals (Figure 3, left panel). This result casts doubt on the substitution argument.

Second, we find suggestive evidence that the land titling program had social effects: households assigned to the program participated less in the same informal institutions at endline. Specifically, the titling program appears to have caused citizens to participate less in mutual aid societies and ROSCAs, and to make fewer contributions to churches (Figure 3, right panel). This crowding-out effect casts doubt on the idea that formal titling and social institutions may be complements.

By contrast, in more peripheral areas governed by customary authorities, citizens assigned to the program did not exhibit higher demand for formal titles and were significantly less likely to obtain one.

Taken together, these results suggest that, in urban contexts, informal institutions are, at best, imperfect substitutes for formal land property rights. This might reflect the fact that, in contrast to rural areas, the benefits of institutions of informal insurance are weaker in cities—in fact, these institutions can even prove costly (Lust and Rakner 2018)—and rising land values make formal land titles more attractive. Formalisation, thus, may offer an exit option to the informal equilibrium.

**FIGURE 3: Heterogeneous effects on demand and receipt of titles by participation in social institutions (left) and effects of the land titling program on participation in social institutions (right)**



## Lessons and impact

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### Making formalisation cheaper and easier

Perhaps the most important lesson is that citizens have high demand for formal land property rights in Kananga, and yet are stymied in their efforts to obtain property titles by high prices, excessive red tape, and bureaucratic incentives. Kananga is no exception in the current context. As urbanisation proceeds at a sweeping pace in sub-Saharan Africa and land values continue to rise, cities face formalisation bottlenecks. However, the significant increase in take-up induced by the program indicates that carefully designed reforms aimed at simplifying the land titling process and reducing bureaucratic discretion have the potential to expand formalisation significantly.

Second, our findings challenge the notion that informal institutions provide an effective substitute for formal land property rights in urban areas. When offered a chance to formalise their land, citizens of Kananga were eager to participate in the titling program. The program also appears to have had social effects, crowding out participation in these, thereby casting doubt on the idea that local informal institutions provide sufficient tenure security. Thus, perhaps paradoxically, informal institutions can be a boon for formalisation, illustrating how policy interventions may interact with pre-existing cultural and institutional features (Nunn 2022).

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