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Differentiated Pathways for Adapting Rotating Savings and Credit Associations to Housing in Addis Ababa

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Research Article

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Abstract

Rotating Savings and Credit Associations (ROSCAs) are among the most common community-based financial institutions in Africa and Asia. Studies of their use in housing show that they finance renovation, extension, and sometimes whole houses, and two models of adaptation have emerged, formalising them or federating them as communal bodies. The two models come from different places and kinds of ROSCA, and little evidence shows which suits which members. This article argues the models complement each other, each serving a different segment, because ROSCAs differ in a few design parameters that follow members' income rhythm and trust base, and adapting them for housing means recalibrating those parameters differently by type. Using a survey of 283 low-income households in Akaki Kality and surveys and interviews with the members and organisers of three socio-economically distinct *Equbs* in Addis Ketema, Addis Ababa, the article shows that ROSCAs were the second most common housing finance strategy (67.3 per cent), that about 80 per cent of users spent the funds on house renovation and expansion, and that 67.8 per cent of households would join a housing-focused ROSCA, contributing about US$27 a month on average. The three *Equbs* differed in membership, governance, pot allocation, custody, and enforcement, and default was almost absent where trust was relational or tied to salary and occurred only in the Equb that relied on cheques and guarantees. The article derives communal–federated, payroll-linked, and guaranteed–tiered pathways in which the housing purpose is common while the mechanics and the external partner differ.

Keywords: Rotating savings and credit associations; Equb; community-based finance; incremental housing; Addis Ababa; adaptation

1. Introduction

In the absence of a well-functioning and inclusive financial system, failed public interventions, and limited public welfare, it is common for low-income households to resort to mutual aid, resource pooling, and collective action to meet their financial needs, particularly in developing countries such as Ethiopia (Alvi & Dendir, 2009; Teshome et al., 2014). Their quest for 'reliable, convenient, and flexible storage and retrieval of cash' and to 'turn their capacity to save into spending power' is often hindered by formal financial institutions, which cite the costly procedure of small-scale savings and the difficulty of assessing creditworthiness (Sandsør, 2010, p. 9). Hence, failure to 'democratize finance' has led the financially excluded to look for alternatives instead of being 'passive victims of discriminatory exclusion or predatory inclusion' (Kear, 2016, p. 263). Rotating savings and credit associations (ROSCAs), known in Ethiopia as *Equb*, represent an enduring institutional arrangement that coexists with conventional financial systems and continues to mediate access to capital even under expanding financial markets. They are one of the most common community-based finance practices across Africa and Asia (Bouman, 1995; Kabuya, 2015).

The literature on ROSCAs and housing is not thin. Studies of ROSCAs as housing finance show them paying for renovation, extension and, where salary deduction or property pooling is in place, whole houses (Adeoye et al., 2021; Shube, 2021; Smets, 2000). The housing finance literature on community-based finance places them in the sequence through which households build incrementally, alongside savings groups, federations and urban poor funds (Boonyabancha & Kerr, 2018; Ferguson & Smets, 2010; Smets, 2019). A systematic review traces the evolution of ROSCAs towards real property acquisition (Jahangir et al., 2023). Two models of adaptation have come out of this work. One formalises the ROSCA, as in the United States, Argentina and Turkey (Jahangir et al., 2023; Kear, 2016; Schreiner, 2000). The other keeps it communal and builds external support around it through federations and funds, as in Namibia, India and Senegal (CAHF, 2021; Ferguson & Smets, 2010; Patel & Burra, 1994).

What this body of work leaves open is a matching question. The two models come from different places and different kinds of ROSCA, and each is usually argued as the way to adapt, so that policy-makers are left to choose between a formal and a communal route without evidence on whom each would serve. Work that looks inside ROSCAs asks why people join, how the pot should be allocated and how default is contained (Besley et al., 1993; Klonner, 2003; Kovsted & Lyk-Jensen, 1999; Zambrano et al., 2023), but not what the differences between ROSCAs imply for housing. What is missing is evidence, from within one city, on how ROSCAs serving different segments of low- and middle-income households are built, what their members can contribute and prefer, and which adaptation suits which.

This article supplies that evidence from Addis Ababa and argues that the two models are complements and not rivals: each serves one segment. ROSCAs vary systematically in four design parameters: who is admitted and on what basis, the rhythm of contributions, the way the pot is allocated, and how funds are held and obligations enforced. The variation follows the income rhythm and trust base of the members each ROSCA serves. The communal and federated route fits members with irregular incomes and relational trust, who cannot produce the documents a bank asks for. The formal route fits members whose incomes are regular or whose assets can back a

guarantee. The empirical material adds three points. First, formal instruments were not what protected the Equbs: default was almost absent where trust was relational or tied to salary. Second, 67.8 per cent of households were willing to join a housing-focused *Equb*, contributing about Br1496 a month on average. This demonstrated willingness is a sound base, and external support can build on it, with a partner that differs by segment. Third, housing use was reported in all three Equbs while preferences on interval, allocation and risk reduction differed, so adaptation should fix the housing purpose and differentiate the mechanics.

The argument matters beyond Ethiopia for how African cities are understood. Much of the housing in African cities is built incrementally by households out of arrangements that never appear in housing policy, and writing on everyday urban life has long argued that such arrangements, from the infrastructure of social relations (Simone, 2004) to savings and mutual aid, are part of how cities work and not a gap in them. ROSCAs are a clear case, and they belong in accounts of the urban economy and of urban governance. Addis Ababa makes the point sharply. Its public housing programme, the Integrated Housing Development Programme (IHDP), requires a down payment that many low-income households cannot raise, so these households assemble housing from sources of their own.

Drawing on a survey of 283 low-income households in Akaki Kality sub-city, and on a comparison of three *Equbs* with distinct socioeconomic compositions in Addis Ketema sub-city, the article makes three contributions. To the literature on ROSCAs and housing, it adds a comparison within one city that links the design of ROSCAs to the segment they serve, with evidence on demand and capacity from Ethiopia, where, to my knowledge, the use of ROSCAs for housing has not been studied systematically. To the debate on adaptation, it shows that formal and communal models are complementary, each fitting one segment. And for practice, it derives three pathways and design principles, including stage–pot alignment. Section 2 sets out the framework and reviews the literature, Section 3 describes the methods, Section 4 presents the findings, Section 5 develops the adaptation pathways and discusses them, and Section 6 concludes.

2. Conceptual framework and literature

2.1 Informal finance: substitute, institution or resource?

Steel et al. (1997, p. 817) used financial repression and imperfect information paradigms to explain whether informal financial instruments are introduced as a ‘response to policy distortion or as an efficient solution to structural constraint’. The first holds that ‘liberalization of restrictive policies should enable the formal sector to expand and thereby eliminate the need for informal finance’ (*ibid*., P. 818). This argument fails to capture the capitalistic and profit-oriented nature of formal financial institutions, whereby, irrespective of market liberalisation, their propensity to serve lower-income segments remains minimal (Smets, 2019). Stenning et al. (2010, p. 122), for their part, argue that the use of informal finance is not only the result of systemic problems or exclusion but also a reflection of individuals’ ‘positive preference’. The same divide runs through the ROSCA literature, between a flexibility approach that considers ROSCAs timeless institutions working alongside formal ones and a functionalist approach that regards them as an early version of the financial system that makes way for formal institutions (Kovsted & Lyk-Jensen, 1999). Recent scholarship argues for recognising them as historically embedded institutions that continue to shape contemporary economic organisation (Obeng-Odoom, 2020). This article takes the second position and asks what follows from it for housing.

2.2 Embeddedness and the social basis of design

Granovetter (1985), building on Polanyi (1944), argued that economic action is carried by ongoing social relations. On this reading, financial decisions surpass educational status, as they are mostly embedded in close social and cultural relationships (Granovetter, 1985). ROSCAs show this clearly. They are 'formed among people who know each other well and anticipate knowing each other into some unknown future' (Biggart, 2001, p. 147), and their enforcement relies on social pressure and economic sanctions, so that social norms substitute for legal contracts (Ajija & Siddiqui, 2021; Bisrat et al., 2012). If information, enforcement and commitment are supplied by relationships rather than by contract and collateral, performance should depend on how thick those relationships are. Features that look like technical choices, such as who may join or how defaults are handled, are really choices about how much of the work relationships are doing. Aredo (1993, p. 27) anticipated how this shifts with size by highlighting that as a ROSCA grows, there will be 'an increase in the cost of transaction, strengthening of the linkage with the banking system, improvement in economic rationality and business orientation, and formalization and institutionalization of its procedure and operation'.

2.3 How ROSCAs work

Ardener (1964, p. 205) defines a ROSCA as 'an association formed upon a core of participants who agree to make regular contributions to a fund which is given, in whole or in part, to each contributor in rotation'. In developing countries, including Ethiopia, it is practised by 45 to 95 per cent of the population (Bauchet & Larsen, 2018; Eilertsen, 2022), and *Equb* is the most common informal financial institution in Ethiopia, predating modern banking (Aredo, 2004; Teshome, 2008). Teshome (2008) classified it into traditional (small, homogeneous members, no written law, low turnover) and emerging (large, heterogeneous, high turnover and transaction costs, formal written law and record). Five core features define its operation: membership, contribution, transferability, enforcement, and pot allocation (Ajija & Siddiqui, 2021; Bisrat et al., 2012). Differences in pot allocation give rise to random, fixed, and bidding ROSCAs. Random allocation prevents corruption and buffers against risk, fixed allocation is susceptible to elite capture, and bidding introduces quasi-market dynamics (Kahyaoglu et al., 2016; Klonner, 2003; Yu, 2013). Risk is reduced at entry through savings capacity checks, social ties, guarantees and, in larger schemes, asset collateral and postdated cheques, and afterwards through social pressure and peer monitoring (Aredo, 2004; Bauchet & Larsen, 2018; Smets, 2000). Scholars have identified five motives for joining, particularly in Ethiopia and other Global South countries: the early pot motive, the insurance motive, social pressure, the commitment device, and household conflict (Bisrat et al., 2012; Eilertsen, 2022). The commitment hypothesis adds that 'saving requires self-discipline and ROSCA works as a tool for individual self-control in the presence of time-inconsistent wants and in the absence of alternate commitment technologies' (Shoaib & Siddiqui, 2020, p. 178), which matters for housing, since it requires a long-term savings commitment.

2.4 ROSCAs, incremental housing and two routes of adaptation

An estimated 50 to 90 per cent of housing in developing countries is constructed incrementally (Wakely, 2014), financed through myriad informal means (Ferguson & Smets, 2010). Their place in the sequence of building varies: in Hyderabad, ROSCAs, chit funds and family loans are used heavily at the early stages and decline as construction progresses, whereas in Nigeria their use increases gradually at the later stages (Adeoye et al., 2021; Ferguson & Smets, 2010). In his study of India, Smets (2000) found a circular relationship between shelter and

ROSCA: shelter title is usually required to participate, the money finances shelter, and participation serves as collateral for a shelter loan from friends and family. In Grahamstown, South Africa, 12 people organised a ROSCA to construct a house for each member through direct salary deduction (Smets, 2000), and property stokvels have been documented as a semi-formalised variant (Shube, 2021).

The formalising route is best known through the United States peer-lending organisation analysed by Kear (2016), which made the social capital ingrained in ROSCAs legible to credit bureaus so that members could 'build credit, expand their housing option, borrow money more cheaply, and potentially build an asset base' (*ibid*., p. 274), at the price of replacing horizontal bonds between members with vertical relations to counsellors and agencies (p. 263). In Argentina, banks organise ROSCAs and match members' savings with a loan depending on creditworthiness, backed by regulation (Schreiner, 2000). In Turkey, a law requiring initial capital drastically reduced the number of companies engaging in ROSCA-based housing finance (Jahangir et al., 2023). In Ethiopia, fintech companies now offer digital peer-to-peer *Equb* schemes (Heim, 2024). The communal route retains the social and solidarity nature of ROSCAs and facilitates support from outside. The Twahangana fund in Namibia has financed 6000 houses since 1995 with support from banks and donors (CAHF, 2021), and a federation in India pooled 'the effect of different cycles of peaks and troughs in the finances of small credit organizations' (Patel & Burra, 1994, p. 396). What this literature lacks is evidence, from within one city, on which route suits which kind of ROSCA and which members, and evidence from Ethiopia on how its ROSCAs differ.

2.5 Adaptation as recalibration of design parameters

Adaptation is treated here as the recalibration of a small set of design parameters, in the spirit of work on the design of common-pool institutions (Ostrom, 1990), whose principles of clear boundaries, monitoring and graduated sanctions have close counterparts in the way ROSCAs admit members, meet regularly and extend grace periods. Four parameters are examined: membership base (boundary), contribution rhythm, pot allocation, and custody and enforcement (monitoring and sanction). Against them are set the three demands of housing. The first is size: housing requires a significant investment, a reality that many with low and irregular incomes cannot meet (Ferguson & Smets, 2010; Turner, 1979). The second is time: incremental construction can take as many as 16 years to complete (Wakely, 2014). The third is sequence: households finance each stage of incremental building from different sources (Ferguson & Smets, 2010). Four propositions follow.

Proposition 1 (variation). ROSCA design parameters vary systematically with members' income rhythm and trust base.

Proposition 2 (fit). Housing's demands of size, time, and sequence cannot be met by adding a housing purpose to an unadapted ROSCA, so adaptation requires recalibrating the design parameters.

Proposition 3 (differentiation). The adaptation route that preserves access differs by segment: federation where trust is relational and incomes irregular, and formal instruments where trust is already document-based or tied to a salary. Formal instruments help where trust is document-based and exclude where it is relational.

Proposition 4 (linkage). Households' willingness to commit to a housing-focused ROSCA is a demonstrated base, but what it can raise does not match the size that housing requires, so external support must complement it, and the right external partner differs by segment.

3. Methods

The study used a mixed-methods approach. Two cases provide the evidence. For the household case, I selected Akaki Kality, a sub-city of Addis Ababa, because it offers diverse housing typologies commonly occupied by low-income households: state-subsidised *kebele* houses, informal settlements, and Integrated Housing Development Program (IHDP) units. As no sampling frame existed, I listed 200 households in each of three enumeration areas representing these typologies and classified them into quintiles using the Central Statistical Agency's (CSA) annual expenditure per capita classification, since households tend to inflate income but provide relatively accurate expenditure data. The 283 households in quintiles one to three were taken as low-income. All were surveyed (a 100 per cent response rate), and 19 household heads, selected purposively and by snowballing to cover each housing typology, were interviewed face to face, mostly at home, until data saturation. The survey assessed, inter alia, housing finance strategies, the practice of *Equb*, its use pattern, and households' capacity to contribute to a housing-focused scheme. For the Equb case, I selected Addis Ketema, home to *Merkato*, the biggest open market in the country, because it is fertile ground for community-based initiatives such as ROSCAs and offers the chance to investigate them across income strata. I purposively selected three commonly practised *Equbs* with distinct socioeconomic compositions (Table 1): a street trader *Equb*, operating for 15 consecutive years; a formal employee *Equb* of teachers and administrative workers; and a formal businessperson *Equb* established by an individual as an entrepreneurial endeavour. I interviewed the three organisers face-to-face (October to December 2023) and surveyed all 40 members on motives, use of funds, and preferences. Monetary values are in Ethiopian birr (Br) and converted at roughly Br54.7 per US dollar, the rate implied by the conversions used in the fieldwork.

Table 1. The three *Equbs* studied (Addis Ketema sub-city)

	Street trader *Equb*	**Formal employee *Equb***	**Formal businessperson *Equb***
Organiser	Female	Female	Male
Members (n)	15	9	16
Women among members	12 of 15	7 of 9	3 of 16
Mean age (years)	34	34	34
Mean monthly expenditure on basic consumption	Br6269 (US$114.6)	Br7000 (US$127.9)	Br13 093 (US$239.3)
Basis of formation	Same line of work; operating for 15 years	Teachers and administrative workers of a school	Middle- and high-income business people; set up by an individual as a business

Source: author's fieldwork, October–December 2023.

Quantitative data were analysed descriptively and qualitative data thematically. Interviews are quoted anonymously. All participants gave informed consent and ethical clearance was obtained (details withheld for review). The three *Equbs* are a small purposive set, so the comparison is analytical and not statistical. The interviews and the organisers' accounts carry the interpretive weight of the analysis, and the survey figures are used to locate them.

4. Results

4.1 ROSCAs in the housing finance of low-income households

Households were asked about the barriers to formal housing finance. More than 65 per cent identified collateral requirements, high down payments and interest rates as major obstacles, followed by the requirement of formal employment (48.8 per cent) and the ability to make regular instalments (42.8 per cent), which highlights the misalignment between the mortgage product and households' profile of irregular, mostly informal income (Fig. 1). Households therefore used a range of financing arrangements, alone or in combination mainly for renovation and expansion of housing (Fig. 2). The most common was their own savings (more than 93 per cent), a choice that was also a debt-aversion strategy, as Respondent 12 described: 'I've never borrowed from anyone. I fear debt... I prefer to save or enter the ROSCA scheme rather than borrow for housing.'

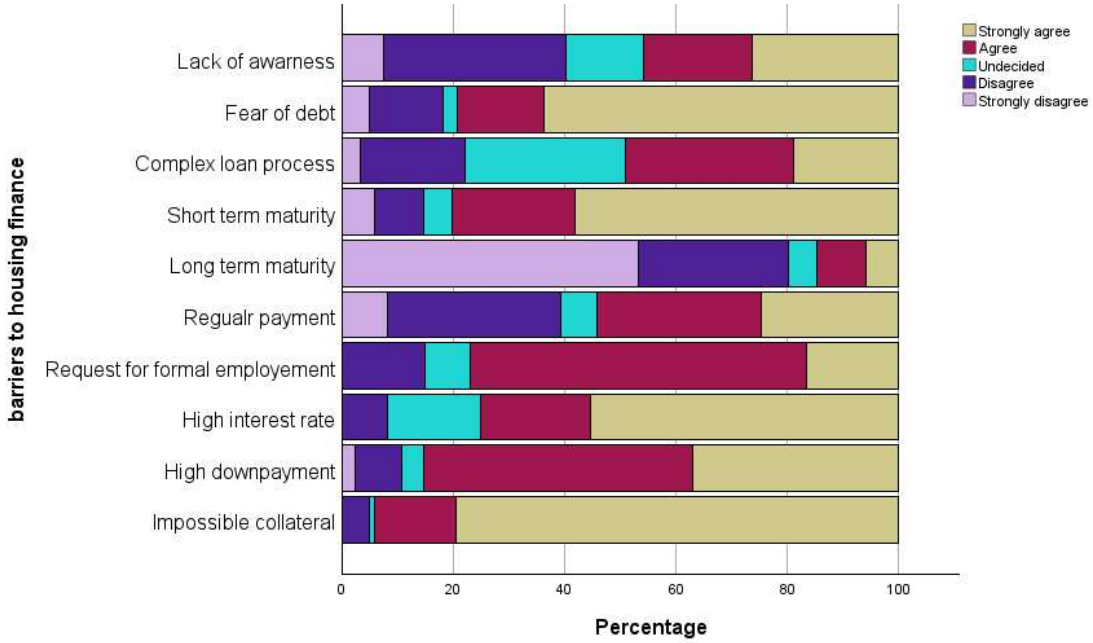


Fig. 1: Common barriers that hinder households (n=283) from accessing housing finance from formal financial institutions

Source: author's survey.

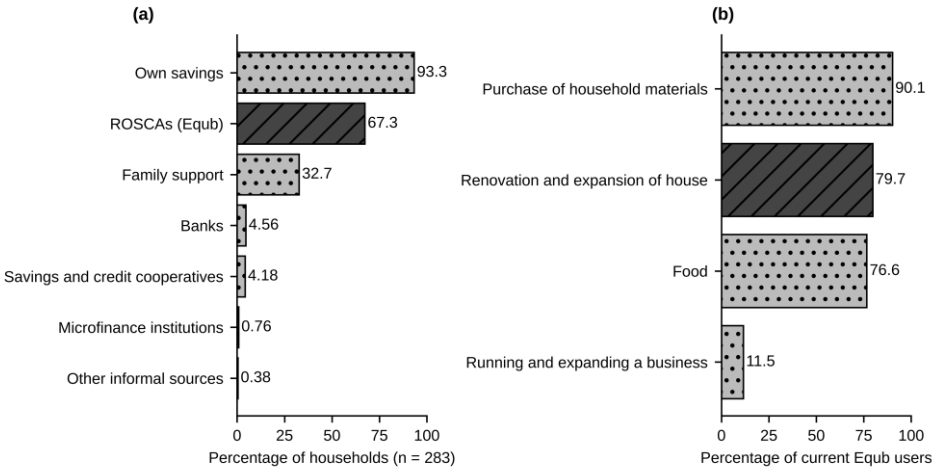


Fig. 2: Housing finance in Akaki Kality: (a) strategies used by low-income households (multiple responses allowed); (b) use of *Equb* funds among current users (multiple responses allowed)

ROSCA: rotating savings and credit association. Dark bars mark the *Equb* results.

Source: author's survey.

The second most common housing finance strategy was ROSCAs (*Equb*), at 67.3 per cent, well ahead of family support (32.7 per cent), banks (4.6 per cent), savings and credit cooperatives (4.2 per cent) and microfinance institutions (0.8 per cent) (Fig.2). A sizable proportion of households also used family support (32.7 per cent), which has strong cultural implications, since helping each other is common and sometimes obligatory. Financing is layered: the *Equb* sits alongside kin and personal savings and not in place of them. An institution usually filed under consumption is thus, in households' own accounts, the main collective source of housing finance. Participation was persistent: 78 per cent of households were participating in an *Equb* at the time of data collection and an estimated 69 per cent had participated at least once in the past, and most (83.3 per cent) did so for both social and economic benefits (Fig.3). Among current participants, 90.1 per cent used the funds to buy household materials, 79.7 per cent for renovation and expansion of the house, 76.6 per cent for food and 11.5 per cent for running a business (Fig. 2 and Table 2). The extent of housing use shows that ROSCAs already carry part of the housing finance of low-income households, and it is the starting point for asking how they might be adapted for scaled intervention. Because the argument of this article is that the right adaptation depends on whom a ROSCA serves, the next sections look inside three *Equbs*, beginning with who is admitted, why members join and how each group is governed.

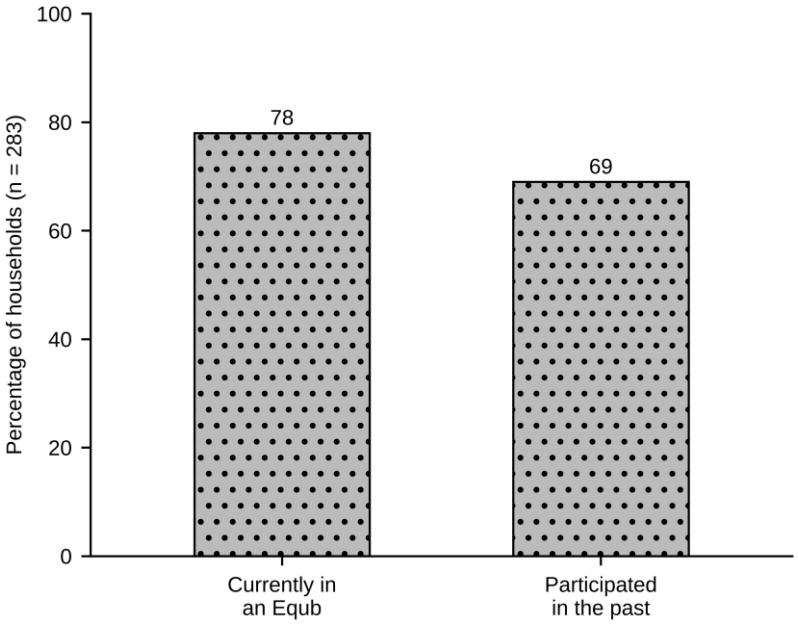


Fig. 3 Demand for a housing-focused *Equb*: (a) participation and willingness to join (n = 283)

Source: author's survey.

4.2 Membership, Motive and Governance

Membership criteria shifted from social to institutional to hybrid. The street trader *Equb* admitted people on the basis of friendship, communal ties and similar work settings, asserting Kurtz's (1973, p. 56) argument that 'shared poverty' is one of the criteria for joining (Table 2). As its organiser put it: 'I will only accept people [whom] I know and [live] near the neighbourhood... Because where would I find him if he/she defaults?' Membership of the formal employee *Equb* was based on employment in one institution, removing the need for a social relationship but limiting access beyond the institutional boundary (Table 2). The formal businessperson *Equb* used fixed assets, a business establishment, guarantees from members, and trust-testing by forcing new members to contribute for a period without receiving the pot, so that pre-existing social ties played a minimal role. Reasons for joining followed: 53 per cent of street trader members reported both economic and social reasons, whereas most formal employee (55.56 per cent) and businessperson (81.25 per cent) members joined for economic reasons alone, suggesting a decreasing social aspect and a trend towards financialization (Fig. 4 & Table 2). Governance followed the same line. The street trader and employee *Equbs* took decisions by consensus, while in the businessperson *Equb* an autocratic approach led to a power imbalance and member dissatisfaction, where there was no reporting, and the organiser, who took a service fee equivalent to one pot, saw the scheme as a business (Table 2).

Table 2. Stated preferences of members in the three *Equbs* (percentages are shares of members, or of responses where marked)

Parameter	Street trader (n = 15)	Formal employee (n = 9)	Formal businessperson (n = 16)
Membership base	Pre-established social ties; neighbourhood; shared poverty	Employment in the same institution	Fixed assets, business premises, guarantees, trust-testing
Contribution rhythm	Every 10th day (daily at start); pot sharing	Monthly, aligned with salary; pot sharing	Weekly; pot sharing and multiple pots
Current Pot allocation	Need based	Lottery or random (all members)	Random + fixed + bidding
Pot allocation preference	Need or urgency 60; lottery 20; predetermined 20	Lottery or random (100%)	Hybrid: random, fixed, bidding (5% discount)
Enforcement and default	Social pressure; organiser covers gaps; default almost non-existent	Peer pressure; salary-synchronised; default almost non-existent	Postdated cheques, guarantees, asset documents, lawyer as deterrent, 20-week rule; default observed
Pots held	Four of 15 hold more than one pot	All members hold one pot	Higher propensity to hold more than one pot (no figure reported)
Relationship among members	Neighbors	Colleagues in one institution	Work 33.3; ethnic ties 25; friendship 16.7; no relation (2 of 16)
Pot deposit (Custody)	Held at home	Held in the office	Bank account in organiser's and treasurer's names
Governance and motive	Consensus; economic and social motives (53%)	Consensus; economic motive only (56%)	Autocratic (Organiser alone); economic motive only (81%)
Cost to inclusion	Limited to the neighbourhood	Limited to the institution	Restricted by asset requirements

Source: author's survey, condensed from the thesis chapters.

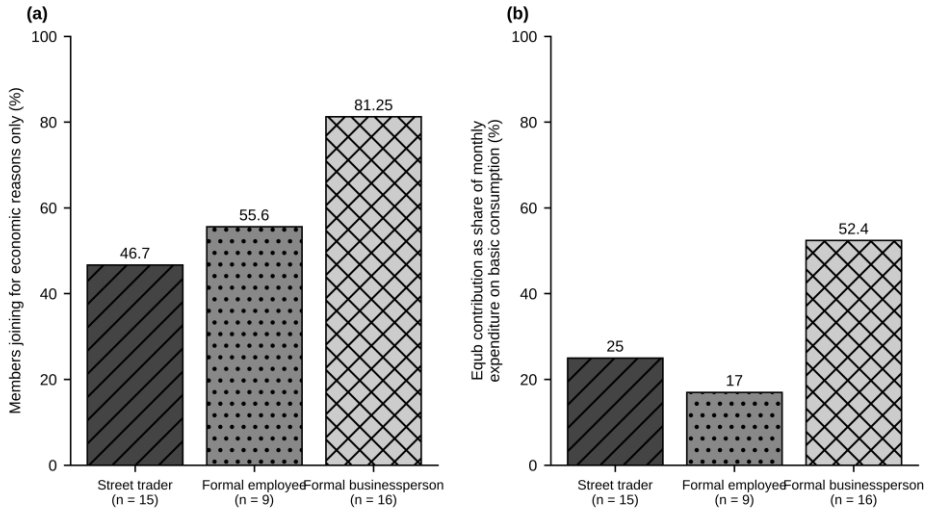


Fig. 4 Motive and commitment across the three *Equbs*: (a) share of members joining for economic reasons only; (b) *Equb* contribution as a share of mean monthly expenditure on basic consumption

Members surveyed, n = 40.

Source: author's survey.

4.3 Contribution rhythm and commitment

Contribution rhythm fitted income. The street trader *Equb* began with daily contributions and moved to a 10-day cycle, giving breathing room to members earning irregular incomes; the employee *Equb* aligned contributions with monthly salary; the businessperson *Equb* collected weekly (Table 2). All three allowed pot sharing for those who could not afford the amount, while those with greater capacity could hold more than one pot (Table 2). When a street trader member deferred payment, the organiser bridged the gap: 'I will fill the gap and ensure the scheme continues without any problem.'. Street trader members, the poorest, contributed 25 per cent of monthly expenditure on basic consumption, and four of 15 held more than one pot (Table 3). That poor households give up a quarter of their basic consumption budget for a rotating pot is evidence of trust in the institution and of the commitment device at work.

Table 3 Monthly contributions in relation to expenditure, in Ethiopian Birr (US$)

	Mean monthly expenditure on basic consumption	**Mean monthly *Equb* contribution**	**Share of expenditure (%)**
Street trader *Equb*	6269 (114.6)	1569 (28.6)	25
Formal employee *Equb*	7000 (127.9)	1222 (22.3)	17
Formal businessperson *Equb*	13 093 (239.3)	6864 (125.4)	52.4
Akaki Kality households (n = 283)			

	Mean monthly expenditure on basic consumption	Mean monthly *Equb* contribution	Share of expenditure (%)
Current *Equb* contribution (members)	–	2529 (46.2); median 2000; maximum 15 000 (274.2)	–
Willing to contribute to a housing-focused *Equb*	–	1496 (27.3); median 1000; maximum 15 000 (274)	–

Basic consumption: food, housing and utilities. Weekly and ten-day contributions are converted to a monthly interval.

Source: author's survey.

4.4 Pot allocation

The street trader organiser allocated the pot by need and was willing to forgo her own right to the first pot: 'I arrange the members early on the cycle based on their level of urgency.' The employee *Equb* used random allocation to give every member an equal chance and avoid conflict due to favouritism, and did not allow bidding because it would introduce a power imbalance (Table 2). The businessperson *Equb* used a hybrid of random, fixed, and bidding methods, selling bid pots at a fixed 5 per cent below the total, with the proceeds serving as a loan for urgent needs or as a contingency in case of default (Table 2). Members' preferences matched: 60 per cent of street trader members preferred need-based allocation, all employee members preferred lottery, and businessperson members preferred a combination of lottery and urgency (Table 2).

4.5 Custody and enforcement

The pot size determined how it was held. The street trader and employee organisers kept funds at home and in the office because the pot was small, was allocated immediately, and depositing and withdrawing at a bank involved a long distance and a lengthy procedure (Table 2). The businessperson organiser kept funds in a bank under the organiser's and treasurer's names (Table 2). Default followed the same gradient. It was almost non-existent in the street trader *Equb*, thanks to strong social and familial relationships, and in the employee *Equb*, because contributions were synchronised with salary, but it occurred in the businessperson *Equb*. There, risk reduction relied on postdated cheques, guarantees, land titles and car licences, and a rule that the pot is allocated only after members have contributed for 20 consecutive weeks (Table 2). The organiser sometimes hired a lawyer, using the cheque as evidence, although given the inefficient court system, this mainly instilled fear and discouraged default. In the smaller *Equbs*, peer pressure and social punishment sufficed (Table 2). Members' own preferences followed the same line. Street trader members preferred sole reliance on insurance from members, indicating strong social ties and trust-based reciprocity at neighbourhood level, and many employee members did too, signalling reliance on peer accountability over formal and costly procedures (Table 2). Businessperson members preferred diverse strategies, including guarantees from members, cheques, land titles and car licences, which relates to the

heterogeneous nature of their relationships, from work-related and ethnic ties to friendship and, for some, no relation at all. In all three, defaults caused by unforeseen circumstances were met with a grace period.

Table 2 brings the parameters together. Proposition 1 is supported: the parameters did not vary randomly but moved together, from relational arrangements in the street trader *Equb* to document-based ones in the businessperson *Equb*, with the employee *Equb* in between because the institution, and not a neighbourhood, supplied the trust. The same pattern carried a cost to inclusion: the asset requirements of the businessperson *Equb*, as Aredo (1993, 2004) also noted of large business-oriented *Equbs*, restrict who can join.

4.6 Demand and fit with housing's requirements

The household survey asked whether households would move from the general repurposing of *Equb* to a housing-focused scheme. A significant percentage (67.8 per cent) stated their willingness to participate in a housing-focused *Equb*, and they were willing to contribute an average of Br1496 (US$27.3) per month (median Br1000; maximum Br15 000), compared with Br2529 (US$46.2) per month paid on average by those currently in an *Equb* (Fig. 5). This suggests a strong desire for a systemised, community-led, purpose-driven approach to the housing problem.

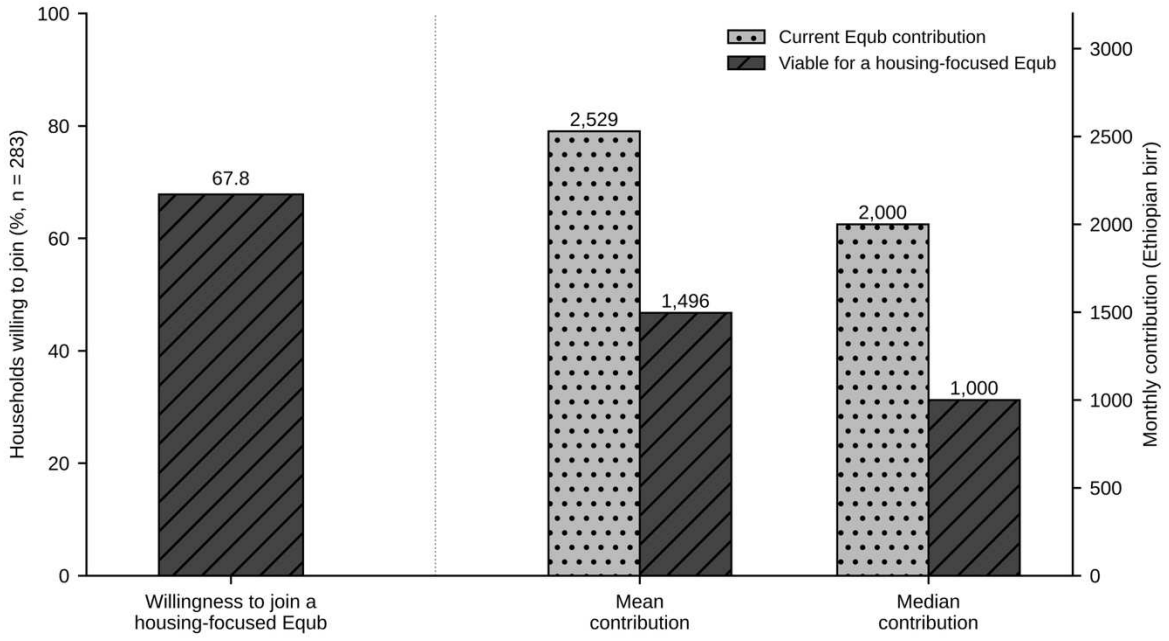


Fig.5 Monthly contribution currently paid by *Equb* users and contribution viable for a housing-focused *Equb*, in Ethiopian birr

Source: author's survey.

Proposition 4 can be checked against these figures. Two thirds of households were willing to join a housing-focused Equb and stated a viable contribution of Br1496 a month on average (median Br1000), which shows a commitment to housing through an institution they already use. Pooled in a group, this amount can fund an increment but not construction or a purchase, and the poorest members already give a quarter of their basic consumption budget to their current Equb while the businesspeople give about half (Table 3), signaling that the base to build on is this existing commitment. External support is needed to complement it: donors, public funds and federation pooling for the street trader type, an employer-linked bank for the payroll type, and bank credit against the group's guarantees for the business type. Proposition 4 is therefore supported. There are reasons to expect such a scheme to be easier to establish than most new financial products. Its use in housing is not new in Ethiopia, which makes adoption easier, as it requires less effort to convince ordinary people to participate (FinMark Trust, 2009; Tesfaye, 2007). The long-standing participation of members, averaging nine years among street traders and some as many as 40, makes the adaptation frictionless and allows it to be established as a long-term commitment, aligning with the capital-intensive nature of housing.

Proposition 2 asks whether this demand meets housing's requirements. On size, it does not unaided. A pot built from contributions of about Br1500 a month by 20 to 50 members, the group size I judge manageable while retaining trust, can fund a renovation or an increment but not construction or a purchase, which echoes the point that the small scale of mobilised funds does not match the capital-intensive nature of housing (Schreiner, 2000). On time, the rhythms households prefer, daily, weekly or monthly according to income, fit the pace of incremental building well: as Respondent 11 described, 'once I construct the wall, I will wait for a few weeks or a month to continue with the plastering'. This suggests what I call stage–pot alignment. This is because each pot rotates to a member at a known date, it can be tied to a building increment, the plot, or the down payment for an IHDP unit, and the order of draws made to match the sequence of work. Standard *Equbs* do not do this, since the pot is spent on whatever is urgent. On sequencing, evidence from Hyderabad and Nigeria that ROSCAs enter at different stages of building (Adeoye et al., 2021; Ferguson & Smets, 2010) shows that sequencing is context-specific and has to be designed. Proposition 2 is therefore supported: housing needs a recalibration of parameters, above all the use rule, the allocation order, the length of the savings period and the link to outside capital, and not just a housing label.

5. Discussion

5.1 Principles common to all pathways

Building on the findings, a set of principles can be derived that hold whichever route is taken. These include aligning contribution interval and amount with the economic realities of members; linking contributions to a long-term housing goal such as renovation, expansion, a plot or the IHDP down payment; setting a consecutive saving period for inclusion in the pot draw; random allocation as the default because housing is an equally shared necessity, with pot sharing for the financially constrained; incentives for on-time contributions and social and formal penalties for delay; open and transparent management by a small elected committee, a hired professional and monthly reporting; a group size of 20 to 50 with an onboarding process and a commitment agreement; and a hybrid of group guarantees, social pressure and legal measures, with a grace period instead of harsh penalties.

Stage–pot alignment can be made concrete. A housing-focused cycle might be organised as a sequence of draws, each tied to a pre-agreed increment: a first draw for a floor or roof repair, a second for a wall or an additional room, a third for finishing works. Members who hold more than one pot would take the second at the end of the cycle, as the street trader organiser did, to keep the allocation transparent. A consecutive saving period before a member becomes eligible for the draw, such as the 20 weeks applied in the businessperson *Equb*, protects the pot against early dropout, and pot sharing lets households that cannot afford a full share take part.

5.2 Three adaptation pathways

Proposition 3 holds that the route differs by type. Table 4 sets out three pathways, each built on one of the *Equbs* studied and matched to international precedent.

The communal–federated pathway suits *Equbs* like the street trader scheme, where trust is relational and incomes irregular. The base is kept as it is, including daily or weekly rhythm, need-based sequencing early in the cycle and the grace period, but each pot is tied to a housing increment, records are kept simply, and small groups are federated so that, as in India, different cycles of peaks and troughs are pooled and external support from banks, donors, the state and corporate actors can be received (CAHF, 2021; Patel & Burra, 1994). The Twahangana fund in Namibia and the Senegalese Federation of Inhabitants show that funds built from community savings, donors and solidarity contributions can finance housing at scale (CAHF, 2021). Formal documents are the wrong instrument for these members, who cannot supply them.

The payroll-linked pathway suits *Equbs* like the employee scheme, where the institution supplies the trust. Contributions are deducted at source, as in Grahamstown (Smets, 2000), deposits go to a bank, and the bank matches savings with a housing or renovation loan, as in Argentina (Schreiner, 2000). Random allocation, which these members already prefer, is kept. This pathway reaches regular earners and is silent about informal workers, who need the first.

The guaranteed–tiered pathway suits *Equbs* like the businessperson scheme, where trust is already document-based. Registration, as with chit funds in India (Smets, 2000), bank custody and organised guarantees can be added, but governance has to be opened (an elected committee and reporting) and a lower tier with group guarantees included, so that, in the words of Smets (2019, p. 595), ‘the better off contribute towards housing the poor’. The Turkish experience of capital requirements shows what happens otherwise (Jahangir et al., 2023).

Table 4. Three adaptation pathways for housing-focused ROSCAs

Pathway (fits)	Recalibration of design parameters	External linkage and precedent	Risk to guard against
Communal–federated (street trader type)	Keep neighbourhood membership, need-based sequencing early in the cycle, daily to weekly rhythm and grace period; tie each pot to a housing increment; keep simple records	Federate small groups; support from banks, donors, the state and corporate actors (Namibia, India, Senegal)	Pots too small; support that demands documents members cannot supply
Payroll-linked (employee type)	Membership through the institution; monthly deduction at source; random allocation; consecutive-saving rule before the draw	Bank deposit and match funding or a housing loan (Argentina; Grahamstown)	Excludes informal workers
Guaranteed–tiered (businessperson type)	Registration; bank custody; guarantees and cheques; open governance with elected committee and reporting; lower tier with group guarantees	Regulation and bank-organised schemes (India, Argentina); cross-subsidy from the better off (Smets, 2019)	Capital and asset rules that exclude (Turkey); autocratic governance

Source: derived by the author from the findings and the cases cited.

5.3 Three debates

The findings bear on three debates. *First*, they reframe the choice between formalisation and communal retention. Kear (2016) shows what formalisation does to a scheme whose strength lies in horizontal bonds, and Turkey shows what it does to access; the Namibian and Indian federations show what retention can do. Each is right about the *Equb* it fits. The street trader *Equb* cannot satisfy a bank's documents, and the businessperson *Equb* has already left the neighbourhood behind. The data add that formal instruments were not what protected the Equbs: default was almost non-existent in the street trader and employee Equbs, which relied on social pressure and salary synchronisation, and occurred only in the businessperson Equb, which relied on cheques, guarantees and asset documents. Formalising a relational Equb would add cost without adding protection, and leaving a document-based Equb informal would leave default to a lawyer's deterrent in a weak court system. Housing use was reported in all three Equbs (60, 37.5 and 50 per cent of members), whereas preferences on interval, allocation and risk reduction differed (Table 3), which is why the purpose can be common and the mechanics differentiated. The differentiated pathways turn a dispute into a matching problem. *Second*, they complement the literature on ROSCAs and housing. That literature shows that ROSCAs finance housing and offers models of adaptation (Jahangir et al., 2023; Kear, 2016; Smets, 2000), and the economic literature on allocation and default (Besley et al., 1993; Klonner, 2003) treats the pot as a means for members to buy indivisible goods of their own choosing.

What the Addis Ababa evidence adds is the segment dimension: which members each model serves, what they can give and what they prefer, with housing turning the use, order and length of the cycle into design variables. The Turkish experience, where a capital requirement reduced the number of ROSCA-based housing companies (Jahangir et al., 2023), shows the risk of imposing a single formal model. *Third*, they speak to digitisation. Digital *Equb* platforms such as those in Ethiopia (Heim, 2024) replace neighbourhood trust with identification and income verification, which resembles the guaranteed pathway. The framework implies that they will serve the relationally trusting poorly unless group-based verification is kept.

A last implication concerns embeddedness itself. The gradient does not mean that relational trust is a stage to be outgrown, as the functionalist reading would have it. The street trader *Equb* shows relational trust carrying a quarter of a poor household's basic consumption budget with almost no default. What changes with scale is not whether relationships matter but which relationships are available, and adaptation can be read as a decision about which to keep and which to replace.

5.4 Implications for housing policy in Ethiopian cities

For Ethiopia the pathways carry a specific implication. A call has been made to register *Equbs* as cooperatives for legal protection, yet no concrete action has been taken (Kedir & Ibrahim, 2011). Registration of that kind would suit the guaranteed pathway but could burden the other two. These implications are urban as much as financial. Whether *Equbs* are recognised, registered, ignored or digitised is a question of urban governance in a city whose public housing programme leaves many households outside it. A housing policy that treats low-income households' own institutions as material for design, and asks which kind it is dealing with, would sit more easily with the realities of African cities than one that waits for these institutions to become formal.

5.5 Limitations

Limits should be stated. The household survey comes from one sub-city, and the *Equb* comparison covers three schemes and 40 members, so the pathways are analytical propositions to be tested and not statistical estimates. Use data are self-reported, and some households may have understated resources for fear of losing eligibility for support. Future research could pilot housing-focused *Equbs* under each pathway and follow them as they grow.

6. Conclusion

This article started from the observation that ROSCAs are among the most common community-based finance practices and are already used for housing, yet the two models proposed for adapting them have been argued as alternatives, without evidence on whom each would serve. In Addis Ababa they are the second most common housing finance strategy of low-income households, about 80 per cent of members spend the funds on housing, and two thirds of households would join a scheme dedicated to housing. The comparison of three *Equbs* shows that ROSCAs are not one thing: membership base, contribution rhythm, pot allocation, and custody and enforcement move together with members' income rhythm and trust base. Adapting them for housing means recalibrating those parameters against housing's demands of size, time and sequence, and doing so differently for relationally trusting, payroll-based and asset-based groups. The communal–federated model and the formal models are therefore complements, each serving one segment, and because households' demonstrated willingness to contribute is a base that external support can complement, the external partner that supplies the missing size is

what differs most. The existing and organic use of ROSCAs for housing grounds any adaptation in practical experience rather than a theoretical model, and the long participation of members, together with their stated willingness to contribute, means that the demand already exists and is waiting for external intervention designed to fit it. The practical lesson for policy-makers, banks and community organisations is to ask which kind of *Equb* they are dealing with before deciding how to formalise it. For African cities more broadly, the case suggests that community-based finance should be treated as differentiated urban infrastructure, to be understood before it is formalised.

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