THE IQQUB: TOWARDS THE QUANTIFICATION OF THE ECONOMIC IMPORTANCE OF AN ETHIOPIAN SAVINGS AND CREDIT ASSOCIATION (ROSCA)

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Abstract: *Rotating savings and credit associations (ROSCAs) have remained popular in many developing countries, despite the expansion of formal financial institutions. Iqqub, the Ethiopian ROSCA, has gained enormous popularity among people from all walks of life over the past decades. Perhaps, its popularity is surpassed only by its sister institution, the iddir. However, our understanding of iqqub has remained limited and its relative size has remained unknown to researchers. This study attempts to analyze the major aspects of iqqub and generate rough estimates of its potentials in contributing to domestic saving mobilization efforts in rural areas. Using a review of the available literature and results of the four rounds of Ethiopian Rural Household Surveys (ERHS), the study has generated qualitative and quantitative evidence of the economic potentials of the iqqub. It has also argued that these potentials have resulted from the enormous capacity of this institution to be flexible, adaptable and accessible under different conditions. The findings of the study could provide food for thought for development actors interested in mobilizing already available institutions and knowledge systems of rural people.*

INTRODUCTION

The *Iqqub* plays an important economic role in mobilizing household savings and providing credit services to a substantial proportion of people in both the rural and urban areas of Ethiopia. Like any other rotating savings and credit associations (ROSCAs) found in many other developing countries, *iqqub* has remained popular among people from all walks of life, including the poor and the well-to-do. However, our understanding of the

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essence and economic importance of *iqqub* has remained limited. Researchers are little interested in the economic importance of ROSCAS. As noted by Brink and Chavas (1997:745), "ROSCAs have received little attention from economists".

The literature on *iqqub* has remained scanty ever since the late 1950s when it received some attention from social scientists (other than economists). The first two publications on iqqub, namely Asfaw (1958) and Pankhurst and Endreas (1958) mainly dealt with the description of the procedures of *iqqub*. After these two publications, *iqqub* had been thrown into oblivion until the late 1960s. This is, perhaps, due to the biases in the development paradigm of the 1950s and early 1960s, which considered "traditional" institutions as backward, change-resistant, and primordial. This was the time when the failure of community development projects was ascribed to the "irrational" behavior and institutions of the people of Africa. It was perhaps in line with the then predominant thinking that Comhaire (1966) asserted that: "on economic grounds, the *ekub* can hardly be regarded as a productive institution. It satisfies a spirit of gambling, than that of true saving".

Mauri (1967) was the first economist to systematically explore the economic significance of *iqqub*. Following Mauri, Girma (1978) further investigated the economic role of *iqqub* in an article he wrote for **Savings and Development**. After a long hiatus, Baker (1986) reported the results of a fieldwork on *iqqub* as a part of a book he was then writing. This was followed by Mauri (1987), who presented a comprehensive review of the economic importance of *iqqub* and provided, for the first time, estimates of the size of *iqqub* in Addis Ababa. *Iqqub* gained further popularity when the African Economic Research Consortium (AERC) published Dejene's (1993) findings in its research paper series and circulated them widely. Dejene's study was based on a survey of 162 employees of Addis Ababa University and case studies from North Shewa. Dejene's findings, along with research findings from Tanzania, Malawi, and Ghana, were later incorporated into a book published by AERC (Aryeetey 1995).

Other than what has been briefly reviewed in the foregoing, it is difficult to find studies of features of *iqqub*. As a result, our understanding of *iqqub* and

its economic importance have remained limited. Therefore, this paper attempts to improve our understanding and appreciation of *iqqub* by analyzing its major features and quantifying its economic potentials in the rural economy. The quantitative analysis attempts to address the following questions: a) what is the size of *iqqub* in terms of participation rate, membership, contributions, and collection from the pool? and b) how much is the potential size of savings mobilized through *iqqub* vis-à-vis savings mobilized through formal financial intermediaries? The paper argues that the relative size of *iqqub* is substantial in terms of contributions to household savings and expenditure. The economic contributions of *iqqub* are quantified on the basis of panel data generated by the Ethiopian Rural Household surveys (ERHS) of the Department of Economics, Addis Ababa University. The ERHS is described in the following paragraphs.

The Department of Economics, Addis Ababa University, in collaboration with the Center for the Study of African Economies, Oxford University, had been collecting panel data in fifteen villages in different agro-ecological zones of the four major regions of Ethiopia, i.e., Oromia, Amhara, Southern Nations Nationalities and People's regional state (SNNP), and Tigrai, between 1994 and 1999. However, Tigrai was excluded from the analysis because very few households in this region reported participation in *iqqub*. Thus, thirteen study sites (villages) were included for the purpose of this study. So far, five rounds of surveys have taken place covering 1477 to 1500 households during different survey periods. The sample size varied from survey to survey because of attrition of some households. The first and the second rounds were undertaken in 1994, the third in 1995, the fourth in 1997, and the fifth in 1999. As the data for fourth round was incomplete, I used data for four surveys, i.e., the first, second, third, and fifth rounds. The number of households interviewed in the five rounds was 1477 households in the first round, 1477 in the second, 1480 in the third, and 1452 households in the fifth round.

No attempt has been made to collect representative samples from a country with a large rural population and limited infrastructure. Instead, a sample of clusters, representative of main agro-ecological zones in Ethiopia, was drawn. By having different areas with well-defined differences within each

areas and fairly large samples, the problems of small samples in village-level panels are avoided (Dercon and Krishnan 1997). Households were randomly sampled within each village (site), and the number of households interviewed in each village was proportional to the population of the region relative to the national population. From each of the thirteen villages, a total of 100 sampled households were covered. Enumerators resided in survey sites during the entire survey period and were usually from the surrounding area.

The rest of the paper is organized as follows. The second section attempts to present a theoretical perspective of the study by presenting the microeconomic theory of ROSCAs as developed by few economists in the 1990s. More specifically; it investigates whether or not ROSCAs are efficient economic institutions. The third section goes beyond the narrow criteria of efficiency considerations and explores the accessibility and flexibility of ROSCAs in the face of changing circumstances. The fourth section attempts to provide rough estimates of the saving potentials and the uses of *iqqub* on the basis of panel data generated by ERHS. The final section presents concluding remarks.

THE ECONOMIC LOGIC OF ROSCAs

The earliest widely cited work on Rotation Savings and Credit Associations (ROSCAs) was provided by Geertz (1962). Based on a fieldwork in Java, Geertz extensively discussed the role of ROSCAs in the development process. But, a seminal work on ROSCAs appeared two years after Geertz, when Ardener (1964) provided the widely quoted definition of ROSCAs, gave an account to the origins and geographical spread of ROSCAs, and discussed their importance in development.

Originally, the credit aspect of ROSCAs was emphasized. Both Geertz (1962) and Ardener (1964) used the term "Rotating Credit Association" (RCA) in their studies. However, in subsequent studies the saving aspect of the institution gained increased focus as a result of which, today, the term

"Rotating and Savings Associations" (ROSCAs) is widely used (Low 1995).

In a comprehensive bibliographical survey of Low (1995:7), ROSCAs are characterized as "flexible, accessible and designed to meet user needs". Similarly, the same survey identifies additional characteristics of ROSCAs, including their capacity to make "enforced saving" possible, make use of mutual trust, cement "friendship", enhance "social contact", and to provide some sort of "insurance" services. ROSCAs can be interpreted as a financial institution in which a group of people, who know and trust each other, agree to regularly contribute a fixed sum of money to a common pool from which each member withdraws his (her) share by casting lots, by bidding, or by employing other means.

Accordingly, ROSCAs provide financial intermediation involving a credit market without explicit interest rates. Members who receive as borrowers from those who are waiting for their turn, while those who have not collected their shares are considered as creditors. All members in the group switch, at some point in the cycle, from a position of net saver to one of net debtor, except the first person in the list (who is a net debtor throughout the cycle) and the last person (who is a net creditor throughout the cycle).

However, the financial intermediation approach, though logically valid, fails to provide insights as to why people participate in ROSCAs. Why not individuals engage in autarkic saving (saving in isolation) or resort to credit from other informal institutions or from formal sources, such as banks? In other words, one would like to investigate the raison d'etre of ROSCAs.

The economic logic of ROSCAs was for the first time explained by Callier (1990), who argued that " the ROSCAs is more like a pooling of resources needed to gain the benefits of some kinds of collective action than like a combination of contracts involving mutual loans and debt service payments". Using the collective action approach, he demonstrated that ROSCAs would enable participants to reduce the waiting time by close to 50 percent of the time, which would be needed if all participants had to save in isolation[1].

Callier's pioneering analysis was taken up by few economists who, in the 1990s, introduced the notion of "indivisible goods" or "lumpy expenditure" as the primary motive for participation in ROSCAs (Besley, Coate, & Loury 1993; 1994; Besley & Levenson 1996; Brink & Chavas 1997). For example, Besley et al (1993:793) hypothesized that:

> In the absence of external funds, individuals must save to finance lumpy expenditures and can gain from trading with one another; the saving of some individuals can finance the purchase of others.

But, economists noted that this is not true when all goods are divisible, since gradual autarkic accumulation is preferable to joint saving. In that case ROSCAs may not be an efficient means of saving for the purchase of divisible goods like food.

Efficiency issues have remained at the center of the debate on ROSCAs. In a later publication, in which he used a rigorous model, Besley et al (1994) attempted to demonstrate that "ROSCAs do not, in general, produce efficient allocations". However, the authors failed to explain why ROSCAs have remained popular even in the presence of alternative means of saving and sources of credit.

This question was partly addressed by Brink and Chavas (1997), who from a microeconomic perspective of a particular variant of ROSCAs (the *njangeh*[2] of Cameroon), attempted to explain why ROSCAs so often continue to operate even when other financial intermediation institutions are available to the individual.

According to Brink and Chavas, the ROSCA enabled its members to undertake lumpy investment projects and provided a solution to the economic problem of indivisible goods within certain bounds, defined by the opportunity costs of savings and borrowing. These bounds (range) are defined as a function of exogenously given interest rates on savings **(r)** and credit **(i)**. Brink and Chavas (1997) showed that it would be profitable for the average individual to participate in a ROSCA if the benefit **(b)** associated with the indivisible good **(B)** fell within the range **rB** and twice

iB. In other words, any participation in ROSCAs can be interpreted as indirect evidence that **b** is, in general, above the opportunity cost of saving liquid assets, **rB**. It would seem that, in practice, this range could be quite large in developing countries, given the generally low interest rates on savings and the high interest rates charged by private moneylenders. The following expression presents the lower and upper bounds of benefit **(b)** from joining ROSCA:

$$rB < b < 2iB$$

However, the authors caution us against a simplistic interpretation of the range they defined with considerable rigor. They underlined that every ROSCA member may not always prefer a ROSCA to a saving account (or to autarchy). For example, some individuals may not want to be the last person to receive the takeout. Such people may find no incentive to join ROSCAs and rather they save in liquid assets.

Nevertheless, using the opportunity cost approach and evidence from Cameroon, Brink and Chavas (1997:765) concluded, contrary to the conclusion of Besley et al (1994), that:

> The ROSCA outperformed, in terms of efficiency and equity, all other credit institutions in the region by reaching virtually every household in the village, handling thousands of credit transactions every year, and doing so at a relatively low level of transaction costs.

Further, with reference to the case of Cameroon, Brink and Chavas (1997:765) clearly spelt out that, in urban areas, ROSCAs could coexist with formal financial institutions and that increasingly rely on legal means to enforce contracts than on social sanctions:

> In Cameroon, ROSCAs also adapt to urban settings, where they continue to thrive even in the presence of commercial financial institutions. However, urban ROSCAs rely less on the sanctioning mechanisms of the kinship-based social structure, for example, the loss of social prestige in case of default. Members directly and forcefully seize property of a defaulting member.

However, Brink and Chavas have warned against hasty generalization about the logic and characteristics of ROSCAs. They clearly indicated that their "analysis will not reflect some of the complexities of ROSCAs found in other locations." This is because of the fact that ROSCAs assume "great diversity" around the world, as can be demonstrated by the Ethiopian ROSCAs, *iqqub*.

TOWARDS AN ANALYSIS OF THE LOGIC OF IQQUB

The Origins of *Iqqub*

The origins of the word "*iqqub*" are difficult to know. Comhaire (1966) suggests that the word "*iqqub*" is "an Amharic term." But, he also says that it could have originated from a Geez term, "*ekub*", meaning "something being kept". The present author is aware of a similar work, i.e. "kube", which stands for a type of reciprocal labor exchange arrangement, reported in a village in Eastern Hararge. In fact, *iqqub* has one thing in common with reciprocal labor exchange arrangements: both pool resources. The former pools savings, while the latter pools labor. Perhaps, *iqqub* traces its origins to "traditional" resource pooling arrangements common in rural Ethiopia.

Does this conjecture contradict the widely held view that *iqqub* originated among the Gurage people during the Italian occupation (Pankhurst and Endreas 1958; Asfaw 1958)? Not necessarily. It is possible that *iqqub* traces its origins to "traditional" rural institutions, but assumed its present feature (i.e. pooling of cash savings) in response to the emergence of monetary economy. As the Gurage people are well known for their active engagement in market activities, it is plausible to infer that the *iqqub* first became popular with these people. Put differently, one can argue that *iqqub* originated in rural areas, but gained its present form through adaptation to urban realities. This observation is line with the findings of a rare comprehensive bibliographical survey on ROSCAs:

> Some ROSCAs predate monetization, and originally, if not currently, dealt in grain or livestock. In southern India today women may save handfuls of rice. The associations are very adaptable (Low 1995:9).

What Low has observed in southern India is also found in Ethiopia. In his an in depth study of the culture of the Gurage people, Gebreyesus (1991) clearly indicated that *iqqub*-in-kind has survived to this date under the name *woujo.*

Woujo is a contribution (in kind) of milk or butter to a common pool from which members withdraw their shares on a rotational basis. A group of women collect fixed amount of milk into a pool (a big pot) for use by individual members on a rotational basis. This is because of technical reasons. That is, an individual household, on its own, may not collect enough milk within three days (the optimal time required for churning). A small amount of milk if kept by it self may get dry and lose flavor. *Woujo* "is treated exactly the same way like in *wuq'b* [*iqqub*] with regards to taking shares" (Gebreyesus 1991:120). *Woujo* is still important in the Gurage areas (Getnet 1999). There is also anecdotal evidence suggesting the persistence of *iqqub*-in kind in Arsi and in the southern part of Ethiopia.

Further, in a very telling paragraph, Gebreyesus (1991) clearly identifies the precursor of *iqqub,* i.e. the *atwaĉat* as described below:

> [In the old days] women had their own gatherings and festivals in the name of Maryam (St. Mary). Therefore, each time there was a festival each individual had to bring with him or her food items cooked and uncooked in order to reduce burden of the individual in whose house the festivals were taking place. Such contribution was known as *atwaĉat.* **Later on, when cash money was introduced, the *atwaĉat* changed into *wuq'b*** (Gebreyesus 1991:119) (emphasis added).

Thus, we may be tempted to argue that *iqqub* is an institutional innovation of the rural people that has assumed its present form, perhaps, during the

first half of the twentieth century, when money economy made a headway into Ethiopia.

A Definition of Iqqub

Iqqub, though it fits neatly into the conventional definition of ROSCAs, is so complex and dynamic that it is difficult to define. There are numerous hybrids of *iqqub* and other associations (such as *iddir*) that have emerged in recent decades. In some cases, it is difficult to distinguish between *iqqub* and *iddir*. Take one extreme case. In the Wallaita and Gamo areas, there is a popular financial institution known as *maskala bankiyaa* (*meskel bank*) (Tinsae 2000). It is a unique institution which has all the characteristics of *iqqub*, except one, i.e. the takeout (share), unlike in *iqqub*, it is distributed among member once in a year (on the eve of the famous Ethiopian holiday, *meskel,* in September of every year). In other words, *meskel bank* does not involve periodic distribution of the takeout. Then how can one call this institution an "*iqqub*", when an important element of *iqqub*, i.e. distribution of the takeout on a rotational basis is missing? To complicate matters, members of *meskel bank* deposit cash on a weekly (or monthly) basis, but, in most cases, they collect their share not in cash, but in kind (i.e. meat for the *meskel* festivity). Therefore, great caution should be exercised in defining *iqqub*.

A definition of "*iqqub*" should take into account its distinct features:

- Regular saving of fixed sum of money, known as the "medeb"[3];
- Withdrawal of the saving on a rotational basis; and
- Written or oral rules (by-laws) defining procedures, amount of the *medeb* (contribution), timing and place of payment, etc.

In addition, *iqqub* involves festivity, social contacts, and, in some cases secrecy from outsiders. Some authors pay attention to the lottery element of

iqqub (Asfaw 1958; Comhaire 1966). Today, *iqqub* is widely recognized as an "association", although in the past some authors recognized it under different categories such as a "union" (Asfaw 1958), a "saving club" (Baker 1986).

Based on the elements mentioned above, the earliest but comprehensive definition of "*iqqub*" was given by Asfaw (1958 :63)

> *Ekub* is a union of persons who join together for the purpose of saving money. Each member undertakes to contribute a fixed sum of money at regular intervals to the club. In return each member in turn has a claim to the full amount collected. There is an element of lottery in the selection of the person who will take the amount collected, for lot draws the name each time.

Based on the foregoing and other works (Levine 1972; Dejene 1993), I adopt the following working definition of *iqqub*:

> The *iqqub* is a savings and credit association (ROSCA) where each member agrees to pay periodically a fixed some of money into a common pool so that each, in rotation, can receive his (her) share or takeout in different ways including the casting of lots, bidding, and other means.

The By-laws of *iqqubs*

According to North (1990), institutions are rules of the game in a society or, more formally, are humanly devised constraints that shape human interaction. In consequence, North argues, institutions structure human exchange whether political, social or economic. Thus, *iqqubs* have their own "rules of the game", which we call "the by- laws". The by-laws of *iqqub* could be very simple or complicated depending on the degree of homogeneity of membership, the size of the *iqqub* and track history of individual members in honoring their commitments. Many *iqqubs*, especially the small ones and those in most of the rural areas may not need written by-laws. They depend on social sanctions to enforce agreed commitments. It is very likely that the degree of complexity of the by-laws

of *iqqub* increase with: a) size of membership and b) size of contributions per member. *Iqqub* leaders can bring to court defaulters on the basis of rewritten contractual agreements (i.e. the by-laws).

A typical by-laws of *iqqub* provides rules, which, a) defines the role of the officers (such as the dagna and the secretary); b) specifies the amount of money to be contributed each week or month; c) identifies benefits accruing to office-holders; and d) provides procedures to be adopted by the *iqqub*. For example, in the by-laws of a case of study medium sized *iqqub* in the Gurage area, Getnet (1999) noted the following provisions:

- The *dagna* (the chairman) and the secretary shall lead the iqqub.
- The *dagna* shall be entitled to an uncontested and free collection of his share three weeks after the launching of the *iqqub*.
- The secretary shall be paid Birr two per week (where the money shall be deducted from the weekly drawing of a winning member), the *iqqub* was launched.
- Every member shall contribute a *medeb*[3] amounting to Birr 10 per week.
- Lots shall be cast for three consecutive weeks and during every fourth week *iqqub* shall be "sold" to a member upon payment of birr 25.
- A member could be registered for one or more *medeb* (i.e. could hold multiple drawings).
- A winning member shall bring two guarantors and collect his share.
- The winners shall spend about six to nine Birr to cover the costs of drinks for members.

- A member, who failed to pay his weekly contribution, shall pay a penalty amounting to 25 cents or one Birr if he delayed payment up to one week. A member who delayed payment for two weeks may be expelled from the association.

Rural and Urban *Iqqubs*

In discussing *iqqub*, it is important to make a distinction between rural and urban *iqqubs*. In general, it is possible to hypothesize that in comparison with urban *iqqubs*, rural *iqqubs* are small in size, operate at very low transaction costs[4], have lower participation rate, have no links with formal sector, and rely heavily on trust and social sanctions in enforcing agreed rules. The following table summarises the major differences between rural and urban *iqqubs*. However, these observations should be treated with caution. In many cases, it is difficult to make a distinction between the two types of *iqqubs*. Small urban-based *iqqubs* are almost similar to those in rural areas. There are also *iqqubs* which are in the process of transition from a rural setting to an urban setting.

The differences between urban and rural *iqqubs* can be explained largely in terms of differences in sources and level of cash incomes between the two geographic areas. In urban areas, per capita income is not only higher than in rural areas, but it also flows on a regular basis. In rural areas income is subjected to seasonal variations, which, in turn, are caused by the vagaries of nature. Perhaps, it is only when they engage in trade and small business that rural people make use of *iqqub* and similar financial institutions. In addition, in rural areas in general, population density (another requirement for sustained saving efforts) is much lower than in urban areas. This implies that *iqqub* is likely more common in those rural areas where the population densities are high and where petty trade is widely practiced. Accordingly, the participation rate in *iqqub* is expected to be high in southern part of Ethiopia, where population densities are high and where, according to CSA surveys, petty trade is wide spread, in particular, among women (Dejene 2001).

Table 1: Comparing Rural and Urban *Iqqubs*

Variables	Rural	Urban
Participation rate and size of *iqqub*	Low	High
Primary means of controlling default	Trust, social sanctions	Legal means supplemented by social sanctions
Degree of social interactions	High	Low
Written by-laws	Less common	Very common
Links with the formal sector	No link	Big *iqqubs* deposit funds in banks
Problems of moral hazards and transaction costs	Low	High
Procedures	Simple	Complex

The Permanency of the Iqqub Cycle

An *iqqub* could tend to be a permanent institution as its cycles are renewed by its members. The degree of permanency of *iqqub* depends, among other things, on a) the stability of income; b) permanency and patterns of settlements; c) the extent of social contacts and the availability of other institutions and activities, which would bring people together.

Obviously a stable flow of cash income is a precondition for sustained saving efforts. But, incomes usually fluctuate giving rise to volatility in the size of saving per unit of time. In extreme cases, income shocks may lead to a state of dis-saving. Both in rural and urban areas of Ethiopia, the capacity to save through *iqqub* may be undermined resulting from income shocks. In rural areas, shocks, such as drought are very common, while in urban areas loss of jobs, and similar risks are common. The various shocks can adversely affect the financial capacity of either individual members of an *iqqub* (as in the case of job loss) or the whole group (as in the case of a common or covariate risk like drought).

Settlement patterns, too, are relevant to the analysis of *iqqub*. Financial institutions rarely exist in places such as the pastoral areas, where people are engaged in periodic mobility and where permanent settlements are uncommon.

Prior social contact facilitates the establishment and viability of an *iqqub*. Most often urban-based *iqqubs* have emanated from already existing institutions formed by groups. For example, there are cases where members of *iddirs* set up *iqqubs* as subsidiaries to their original institutions. There are also cases where members of a housing association set up an *iqqub*. The permanency of pre-existing social ties and institutions gives permanency to *iqqubs*. Also, it is possible that the demise of pre-existing social ties would lead to the demise of an *iqqub*. No subsidiary institution can survive the fall of the mother institution.

The Strength of *Iqqub*: Accessibility, Flexibility, and Adaptability

The strength of *iqqub*, like other ROSCAs, lies in its accessibility, flexibility and adaptability. Although it is possible that some section of society is excluded from *iqqub*, one can argue that *iqqub* is inclusive to the extent that the poor, in particular, poor women are concerned. As early as the 1950s, Pankhurst and Endrias (1958) observed that membership in *iqqub* ranged from shoe-shiners of Addis Ababa who contributed 10 cents per day to rich businessmen who paid birrs 100 (the equivalent of 14 pound sterling at the then prevailing exchange rate) per month. Today, too, there are *iqqubs*, which cater to the needs of the poor, including poor women (Dejene 1993; 1999; Aspen 1993).

The greatest potential of the *iqqub* lies in its flexibility in order to meet the needs of people with differing economic status. There is always *iqqub* for everybody, at any time, for any purpose. For example, in the village of Indibir, in the Gurage area, there were *iqqubs* for the poor as well as for the rich. In the village of Turufe-kecheme, (around Shashamene) where there were about ten different *iqqubs*, poor women saved one birr each per week from proceeds generated from the sales of *tella* while relatively well-of shopkeepers saved as much as birr 30 per week. In this village, there were

separate *iqqubs* for men and women. The latter were free to use their collections from *iqqub* for whatever purpose they chose. In the village of Aze Debgo'a (Kembata), the poor contributed two Birr per week while rich businessmen contributed 100 Birr or more per week. There were *iqqub* for special purposes such as ceremonies, purchase of durable goods, etc. (Dejene 1999).

The flexibility of the *iqqub* can be further evidenced with reference to some of its distinct features, including:

- Timeliness of its formation;
- Flexibility in the frequency of payment (which could be daily, weekly, or monthly, depending on the sources of incomes of members);
- Flexibility in the size of the contribution (individuals can team up to raise a sum equal to the *medeb* or one person can hold several *medebs* and register more than ones);
- Possibility of joining more than one *iqqub* (a person can diversify his portfolios depending on his capacity and needs); and
- *Iqqub* money can be put to any use that the member deemed necessary (including the purchase of food, clothing, consumer durables, and student note books, payment of debt, or taxes, investment in business, purchase of working capital).

Risks and innovations

However, the flexibility of *iqqub* is subject to risks and threats it often faces. The major sources of risk and threats facing *iqqub* include: a) problems of defaults arising from problems of moral hazards[5]; b) inflationary pressure causing unfair distribution of shares (collection); c) increased transaction

costs accompanying commercialization; and d) shocks of various sorts undermining the financial capacities of members.

Problems of default in *iqqubs* are less serious in comparison with defaults faced by the formal financial sector. However, though systematic evidence is lacking, urban-based *iqqub* often face serious problems of default. Nevertheless, *iqqubs* have devised various effective mechanisms to overcome these problems. Among the major mechanisms *iqqubs* use to reduce the incidence and intensity of default, it is possible to identify the following:

i) Effective screening methods are used to avoid potential defaulters. Leaders gather enough information about the credit worthiness of an applicant before admitting him (her) as a member. In a case study businessmen's *iqqub* in Addis Ababa, it was noted that a new member must be known by six members from the group (Dejene 1993). In some of the businessmen's *iqqub* in Addis Ababa, a bridging time is allowed before a new cycle is started following the end of the old one. During this time, leaders collect information about a new member, recruit additional members, drop those members with bad track history of default, and allow members to plan their expenditure and get prepared for a long cycle of saving.

ii) In addition to social sanctions and peer pressure, guarantors may be required to ensure payment in accordance to agreed rules. In urban areas, the number of guarantors could be as large as six members (Dejene 1993).

iii) Title-deeds could be required as a collateral depending on the size of collections from *iqqub*.

iv) Some *iqqubs* keep emergency fund or reserve funds to compensate members losing part of their share due to default. The fund is raised through deductions from the shares of

members, accumulation money earned through "sales" of *iqqub* and through money raised from penalties (Dejene 1993).

v) Some *iqqubs* keep new members at the bottom of their lists so that a suspected member gets his (her) share at the end of the cycle.

Inflationary pressure may significantly reduce the value of money collected by those members withdrawing their shares at the end of the cycle. To overcome this problem, *iqqubs* have devised different mechanisms including: a) the practice of fixing variable "price" of *iqqub* (i.e. the "implicit interest" charged declines with the length of the cycle); b) those who collect their shares at the end of the cycle are compensated with funds raised through deduction of shares of early winners (Dejene 1993); and c) in some parts of the rural areas, *iqqub* is paid in kind (Dejene 1999; Gebreyesus 1991; Getnet 1999).

The transaction costs of running an *iqqub* tends to rise with increases in the degrees of commercialization and urbanization. The transaction costs of businessmen's *iqqub* in Addis Ababa consist of a) compensation for the *dagna* (the chairperson), the secretary, and in some cases, for lawyers; b) costs of drinks, which are obligatory; c) costs of litigation; and d) purchase of stationery for book-keeping and similar purposes (Dejene 1993). Possibly some people tend to avoid businessmen's *iqqub* because of growing transaction costs of doing business. Added to this, one may mention problems of embezzlement as a factor contributing to transaction costs.

Iqqubs are exposed to both individual (idiosyncratic) and common (covariate) shocks. In rural areas an *iqqub* may be undermined due to common shocks like drought, epidemics, locust infestation, and flooding. Also individuals may be unable to pay their contribution because of idiosyncratic risks such as death of the member, death of essential livestock, pest infestation of crops, and personal tragedies of different sorts. Similarly, in urban areas *iqqubs* face shocks arising from individual specific risks, widespread business failure, sudden changes in regulatory frameworks and government policies, robberies, etc. Given their immense capacity to adapt

to changing circumstances and their resilience, *iqqubs* tend to devise means of minimizing the adverse effects of risks and uncertainties.

The capacity of *iqqubs* to adapt to changing circumstances and undertake institutional innovations can be demonstrated with reference to case studies of two hybrid women's *iqqub* in selected villages in Arsi[6]. One of the *iqqub* centered on a marriage fund established by mothers. Originally, a group of mothers set up an *iqqub* for the sole purpose of pooling butter meant for the support of a neighbor organizing a wedding ceremony. But, eventually, members failed to raise enough butter as it became too expensive. Therefore, the village women devised a very innovative way of dealing with this problem. They established a working capital and engaged in grain trade.

They bought grain during the post-harvest period and sold it during pre-harvest period (the time when grain prices sharply increased). With the proceeds from the grain trade, they bought butter during the season when butter was cheap, for distribution among members organizing a wedding ceremony. Also, the group provided a sort of insurance service by supporting bereaved family members with butter and other items. The group was also engaged in a sort of credit-in-kind. Needy members borrowed grain from the pool (store) during the pre-harvest period and returned the principal and interest during the post-harvest period.

In another *iqqub*, members contributed varying sum of money (25 cents or one Birr) depending upon seasonal variations in the availability of cash income in the village. Variable contribution is definitely a remarkable innovation. Again, wedding ceremony constituted the main purpose for setting up a multiple purpose *iqqub*. Among its various operations, the *iqqub* ran a cooperative farm, which enabled the *iqqub* to boost its portfolio. The *iqqub* used the grain not only to sell and generate additional cash income for the group, but also maintained a stock to support bereaved family members and to extend state contingent credit to members. In addition, the *iqqub* has developed mechanisms for preventing and resolving conflict arising among members of the group.

However, *iqqub*, though innovative and flexible, has its own weaknesses, which can be classified into internal problems and external ones. The former includes problems of embezzlement, unfair practices (such as arbitrary fixing of the order of rotation), lack of transparency and accountability, etc. In addition, because of the requirement of homogeneity of membership size *iqqubs* have limited potential to horizontally expand. Credit market fragmentation is a likely feature of rural ROSCAs. However, in urban areas *iqqub* has considerable potential to overcome problems of market fragmentation. External problems of *iqqub* include inflationary pressure and lack of recognition and support from the state. The legal framework for the operations of the *iqqub* is inadequate, to say the least.

In the foregoing, we have discussed the meaning, origins and the logic of *iqqub*. In the following section, we will attempt to quantify the economic importance of *iqqub* on the basis of four rounds of the Ethiopian Rural Household Surveys of the Department of Economics, Addis Ababa University.

TOWARDS THE QUANTIFICATION OF THE ECONOMIC IMPORTANC OF IQQUB

Our knowledge of the economic importance of *iqqub* has remained miserably limited partly because of paucity of data. So far, there has been no quantitative evidence of *iqqub* in either rural or urban areas. In what follows, I will attempt to address this problem using the results of Ethiopian Rural Household Survey (ERHS), which was undertaken in five rounds between 1994 and 1999. Because the data for *iqqub* were incomplete, results of the fourth round are not included in the following analysis. The panel data for this study should be interpreted with caution. Sampled household may understate or over report some of the information related to *iqqub*. This could be partly because of the food dependency syndrome, which is common in rural areas. The following analysis refers to the three major regions of Ethiopia, i.e., Amhara, Oromia, and the South (SNNP). The first part of this section presents quantitative evidence: the extent of

participation, membership size, contribution to and collection from *iqqub*, and the uses of *iqqub* funds. The second part attempts to put *iqqub* in perspectives with the formal financial sector on the basis of the estimates of its size.

Participation Rates

In the literature, participation rates of *iqqub* are rarely reported. Some case studies suggest considerable rates of participation. For example, Dejene (1993), in a study of a village in North Shewa, reported about 50 percent participation rate. But, for female- headed households, he reported as much as 70 percent. This could be partly explained by the fact that female-headed households are often engaged in small business to make ends meet (see also Dejene 1994). In a case study of employees of Addis Ababa University, Dejene (1993) reported 48 Percent participation rates. Further, he reported that the participation rate in *iqqub* systematically increased with the level of per capita income, i.e., participation rates were 41 percent for low-income employees, 48 for medium income, and 56 percent for high-income employees. On the contrary, he noted that the ratio of contribution to income systematically declined with income, suggesting the possibility that the marginal value of *iqqub* is higher for the poor as compared to the better off. Perhaps, *iqqub* is "a necessary good."

Regarding results of the Ethiopian Rural Household Surveys (ERHS), an average participation rate of 17 percent was reported during the four rounds. But, as indicated in Figure 1 and Annexes 1 and 2, the participation rate has strongly varied among the three regional states. It is as low as 6.4 percent in Oromia and as high as 23.6 percent in SNNP, where the population densities are high and where proportionately large numbers of people (especially women) are engaged in petty trade. In fact, the highest participation rate, i.e., 59 percent, has been reported in the SNNP (i.e. in Indibir , Gurage area).

The participation rate has remained moderately unstable during the survey period. It declined from a peak of 19 percent during the first round of the study to a minimum of 15 percent during the fifth round. This tendency has

been more or less true with the three regional states covered by the survey (see Figure 2 and Annex 1). It is not known why the participation rate has exhibited a tendency to decline during the reference period (1994-1999). Was it due to a decline in business activities and subsequent decline in cash income *per capita*?

Figure 1: Average Participation Rate in Iqqub by Regional States

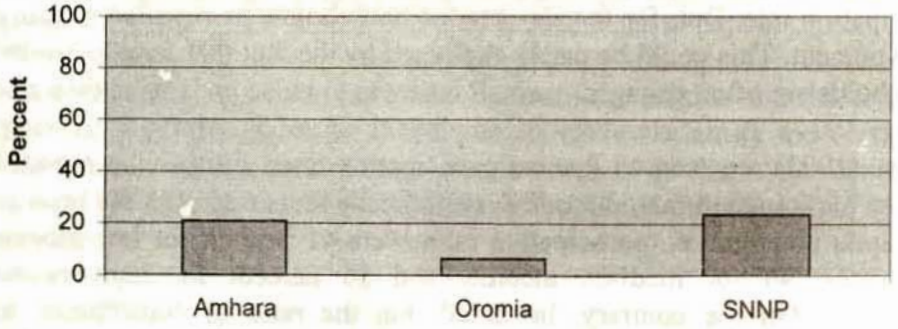
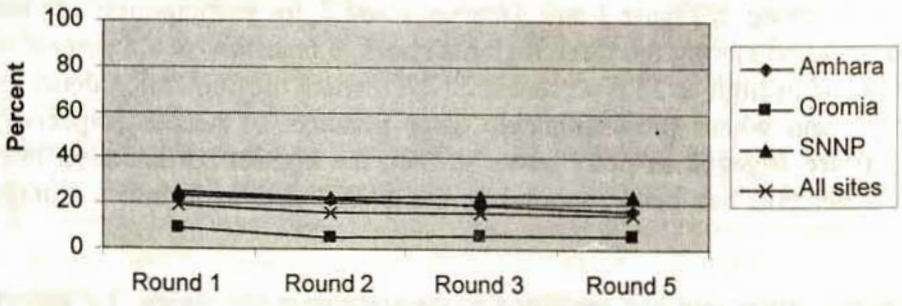


Figure 2: Participation Rates During Four Rounds of the Surveys by Regional States



Membership Size, Contributions to and Collections from *Iqqub*

Membership size is likely to be determined by the degree of homogeneity required, a locality's capacity to generate sufficient cash income on a regular basis, and the population density of a given locality (or village). Size is likely to increase with the number of people in a homogenous group, the volume of cash income generated within a village, and with population density.

In this study, membership size of *iqqub* averaged 34 persons per *iqqub* during the four rounds of the study. Membership size, flexible as it is, varied from 12 in the village of Adele-Keke (in Oromia) to 72 in Dinki in Amhara regional state (Annex 2).

As indicated in Figure 3, membership size is the highest in Amhara (almost 50 persons per *iqqub*), followed by SNNP (31.4 persons per *iqqub*). In fact, the highest number is reported in a village in North Shewa (i.e. 72 persons in Dinki). This finding is consistent with Dejene (1993), who, in a case study of *iqqubs* in a village around Debre-sina, reported as high as 250 persons per *iqqub*. In the same village, he identified two more *iqqubs*, which had 60 and 74 members each. Together, the three *iqqubs* generated savings amounting to birr 678 per week within an area measuring 800 hectares and having 160 households. Similarly, Aspen (1993) reported a membership size of 53, and 136 during two rounds of a study of an *iqqub* in a nearby village. It is not clear why membership size is large in Amhara region. Is it because a large membership size compensates for a small size of contributions?

Contribution to *iqqub* is partly determined by the financial capacity and composition of membership. Better off peasants and village traders often pool resources and set up relatively large *iqqubs*. On the other hand, poorer individuals tend to set up their own *iqqub*, which is, by definition, small. There is no wonder the smallest size of contribution (an average of Birr 86 per *iqqub*) was reported in the village of Koro-degaga, an extremely poor and sparsely populated area (Annex 2). On the other hand, the largest amount of contribution was reported in the village of Adele-keke (East Hararghe), located in an area well known for a thriving trade in cash crops

like *chat*, coffee, and vegetables. Contributions to *iqqub*, which averaged 306 Birr per member (per year) during four rounds of the survey, variedly widely (standard deviation = 702 during fifth round) among the study sites depending, partly, upon factors mentioned above.

Region-wise, the largest average contribution (i.e. Birr 413.7) has been reported in Oromia, a region with the lowest average size of membership. The lowest size of contribution (Birr 238 per member was reported in Amhara (see figure 4 and Annex 2).

As *iqqub* is subject to covariate risks (such as drought), it is possible that during times of difficulties, participation in *iqqub* dwindles and contributions become small. Both membership and contributions have fluctuated over the survey periods; depending, perhaps, on the vagaries of nature (see Figure 5 and Annex 3). As indicated in Figure 5, contributions dropped to their lowest levels during the third round of the survey. Could this be explained in terms of income shocks occurring in the study areas at the time of the study?

In general, collections from *iqqub* have been reported to be lower than contributions. For all of the study sites, annual contribution averaged Birr 306, while collection averaged Birr 266 per household (see Annex 2). This was true for all sites except one (the village of Koro-Degaga in Arsi). The differences between the two could be partly accounted for by factors such as deductions from collections, possible under- reporting of incomes, etc. In the study areas, annual collections averaged 266 Birr per member (per year) over the survey period. Further, the size of collections, which ranged from 113 Birr in Dinki (North Shewa) to Birr 512 in Adele-keke (E.Hararge), varied widely (SD = 588 during fifth round) among the study sites. The largest collection was reported in Amhara regional state, while the smallest was reported in Oromia regional state (Annex 2).

Figure 3: Membership of Iqqub (Number of Persons per Iqqub) by Regional States

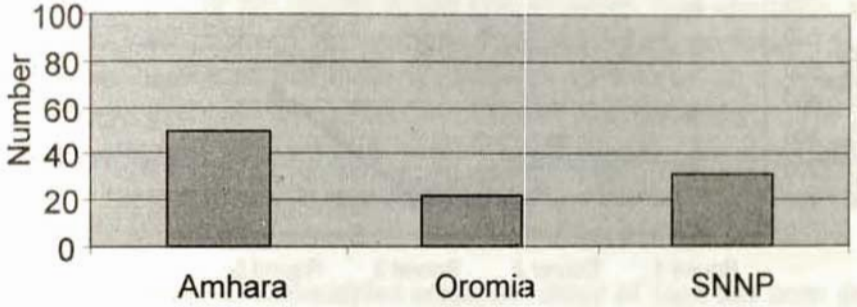


Figure 4: Mean Contributions to Iqqub (Birrs/Member) by Regional States

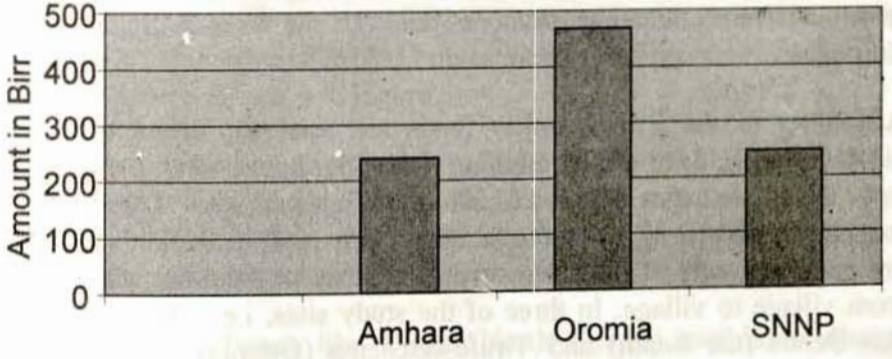
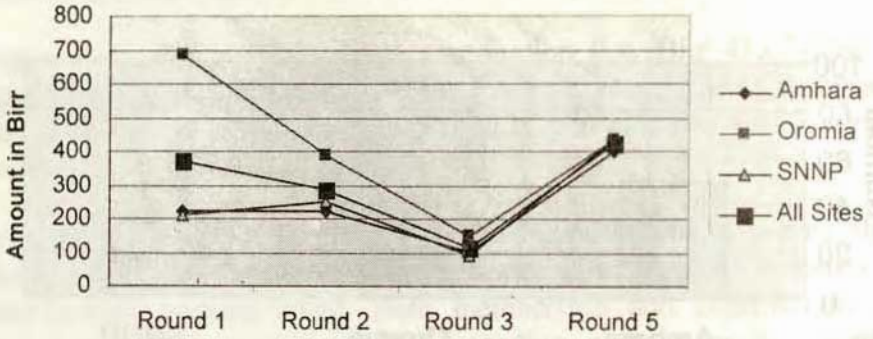


Figure 5: Average Contributions to Iqqub During Four Rounds of the Surveys (Birr/Member)



The Uses of *Iqqub* Funds

In practice, ROSCA funds are used for different purposes including the purchase of food, investment in human capital or in assets, loan repayment, etc. (Kumuyu 1999). Conventional economic theory assumes that ROSCA funds are used for the purchase of indivisible (lumpy) durable goods. In what follows, we will examine, in some detail, whether this assumption is relevant to the utilization of *iqqub* funds in the three regional states of Ethiopia.

According to the ERHS, *iqqub* funds are used for different purposes. However, food, followed by clothing (and other household goods), is found to be the single major item for which *iqqub* funds are used (Annex 4). This may not be surprising given the fact that many rural households in Ethiopia are net purchasers of food. However, the share of food has varied widely from village to village. In three of the study sites, i.e., Shumsha (Wello), Aze-Deboa (the South) and Tirufe-ketchema (Oromia) as much as 100 percent of sampled households reported food as the only item for which *iqqub* funds were used (Annex 4). This may not be surprising for the first site (i.e. Shumsha), which is drought-prone and exposed to famine. It is

possible that some of the panel data were generated at times when food shortages were felt by households.

Moreover, the share of food in the total *iqqub* funds has fluctuated during the study period (1994-1999), perhaps in response to shocks (like drought). For example, during the second round (1994), when food shortages were widely felt, food received an average of 65 percent of the funds (for all sites). It can be argued that *iqqub* is partly one of the *ex ante* mechanisms adopted by households to address problems of food insecurity. It is very likely that *iqqub* contributes to household consumption smoothing efforts. Perhaps, some households decide to join *iqqub* to maintain or improve their food security positions.

On the other hand, in food-surplus areas, the share of food has been small and *iqqub* funds are used for different purposes including the purchase of clothes, investment, and other purposes. For example, in Yetmen (East Gojam), a relatively food-surplus village, only 20 percent of sampled households reported using *iqqub* funds for the purchase of food (see Figure 6). Similarly, in another food-surplus site, i.e., the village of Sirba-Godeti, East Showa, the share of food in *iqqub* fund was 33.3 percent while that of clothing was 50 percent and investment 16.7 percent (Figure7). Also, in a rich coffee-growing village in Gedeo, SNNP, i.e., in the village of Adado, food received only 27.8 percent of *iqqub* fund, while the rest was used for the purchase of clothes (22.3%), investment (16.7 percent), and other purposes (33.3%) (Annex 4 & Figure 8).

Next to food, clothes and other household goods have received for a substantial proportion of the *iqqub* funds. As can be seen from Annex 4, a low expenditure on food is, in general, associated with a high expenditure on clothes and other household goods.

In some of the villages like Dinki (North Shewa) and Koro-Degaga (Oromia), investment in livestock and other assets has received substantial proportions of *iqqub* funds. In these villages, investment accounted for as much as 50 percent of total uses of *iqqub* funds (annex 4).

Investment items, together with clothes and household goods, constitute indivisible or lumpy good as defined in the economic literature. Therefore, it could be argued that, to some extent, individuals participate in *iqqub* to purchase lumpy goods, in line with the postulates of conventional economic theory. However, contrary to what the economic literature provides, the evidence from rural Ethiopia suggests that the take out from the Ethiopian ROSCA is used for different purposes including the purchase of food, livestock, building materials, farm tools, and of other assets. In addition, in some of the villages, households used *iqqub* funds to repay loans, and for miscellaneous other purposes. Thus the findings of this study more or less agree with evidence from other developing countries (see Low 1995).

Also one may be tempted to agree, in some respects, with the argument of Brink and Chavas (1997) concerning benefits derived from rural *iqqubs*. Given high interest rates charged by moneylenders (at least 120 percent in many parts of the rural areas) and lack of alternative financial intermediaries for cash savings, rural households make rational decisions by joining *iqqubs*. Even where financial institutions are available deposit rates could be too low to attract savers.

However, the popularity of *iqqub* cannot be explained in terms of financial benefits alone. *Iqqub* is preferred to alternative financial institutions partly because of the low or insignificant transaction costs it requires, the social interactions it provides, and because of its accessibility and flexibility in the context of widely varying rural settings. However, there are a number of questions left unanswered in this study. For example, one would like to know why 83 percent of the sampled households were not participating in *iqqub* during the study period. Is it because the bulk of the rural population lack the financial means to set up and join *iqqub*, or is it because the majority prefer autarkic saving to "collective action" of the type discussed by Callier (1990)?

Figure 6: The Uses of Iqqub Funds, the Village of Yetmen, East Gojam, Amhara Regional State (fifith round)

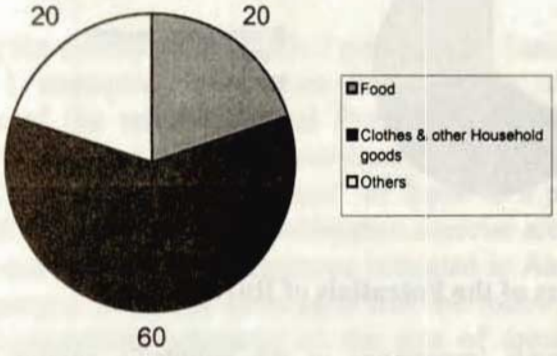


Figure 7: The Uses of Iqqub Funds, the Village of Sirba-Godeti, East Shewa, Oromia (fifth round)

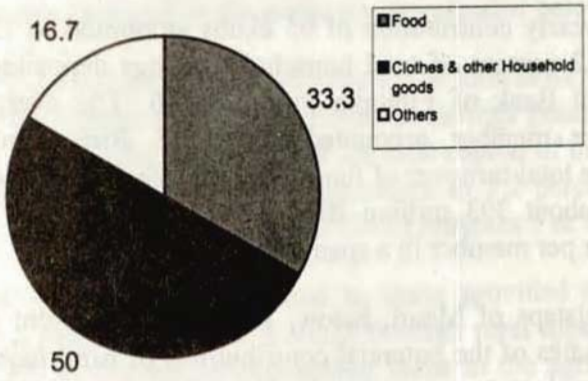
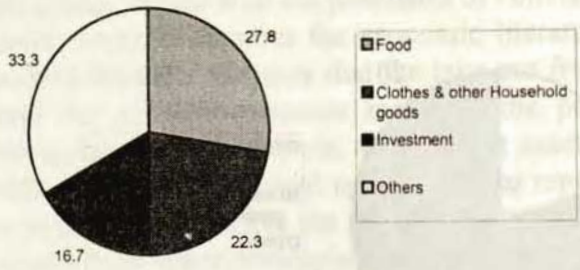


Figure 8: The Uses of Iqqub Funds, Adado, Gedeo, SNNP (Fifth round)



Towards Estimates of the Potentials of Rural *Iqqubs*

Despite its enormous importance in the country's saving mobilization efforts, so far there has been no estimate of the contributions of *iqqub* to the economy. The only preliminary estimate was that of Mauri (1987:11), who on the basis of a survey of 95 *iqqubs* (having 13, 261 members) in Addis Ababa, reported that:

> The total yearly contribution of 95 ekubs amounted to 139 million Birr or 15.2 percent of total household savings deposited with the Commercial Bank of Ethiopia in July 1986. The average yearly savings per member accounted to 10,515 Birr... Interestingly enough, the total turnover of funds over the life span of the 95 ekubs comes to about 393 million Birr, which is an average saving of 29,633 Birr per member in a span of 2.8 years.

Following the footsteps of Mauri, below, I will try to present rough and conservative estimates of the potential contributions of rural *iqqubs* for the three major regional states, namely, Amhara, Oromia, and SNNP (the South). The estimates may understate the actual potentials of *iqqub* because urban-based *iqqubs,* which are considered to be very large in size compared to rural ones (an average of 139 members according to Mauri, 1987), are excluded due to lack of data. The database of the estimation exercises may suffer from certain shortcomings. For example, the data generated by the

ERHS may not adequately represent the highly heterogeneous characteristics of the three regional states. Also, the size of *iqqub* may be underestimated because of the reluctance of food-deficit households to give information on the true size of their earnings, given possible problems of food dependency syndrome prevailing in rural areas.

In estimating the potentials of *iqqub*, I pursued one basic principle, i.e., in every case, I attempted to compare the estimates of *iqqub* with the performances of the relevant formal financial sector. In other words, I asked: what if *iqqub* funds were switched to investment in the formal sector? Here, I took the "contributions" of *iqqub* as a proxy for "savings through *iqqub*". The results of the estimation exercise are subject to further assumptions and computation techniques indicated in Annexes 5, 6, and 7. What has emerged from this exercise is that the following ratios provide rough and conservative estimates of the size of *iqqub* in the national economy.

For the rural areas of three major regional states, the size of savings generated through *iqqub* has been estimated at **396.5 million Birr per year** (see Annexes 5 & 6). Based on this estimate, it is possible to estimate the relative size of *iqqub* in the economy as indicated below.

The size of rural *iqqub* can be compared to the indicators of the performance of the banking system in Ethiopia. Potential savings generated through rural *iqqub* amount to about 18 percent of the total capital of the banking system. Savings through rural *iqqub* was equivalent to 2.2 percent of the deposit mobilized by all banks in Ethiopia in 1998 (Annexes 5 & 6).

Rural *iqqub* can also be compared to loans provided to the agricultural sector by the banking system. Savings through rural *iqqub* amounted to an equivalent of 30 percent of outstanding loans to the agricultural sector by the banking system in 1998/1999(Annex 6).

Further, it is possible to estimate financial institutions that could be established if the potentials of rural *iqqub* in the three regions were mobilized. Accordingly, using the estimated potential savings from rural

iqqub (i.e. 396.5 Birr), it is possible to raise capial enough to establish five private banks, 215 micro-finance institutions, and 1,372 saving and credit associations (see Annexes 5 & 6).

Thus, though rough and conservative, these estimates suggest that *iqqub* has enormous potentials to contribute to the country's efforts in mobilizing domestic savings. In this connection, certain basic issues could be raised. For example, given the segmented nature of the informal financial sector, is it feasible to mobilize the potentials of *iqqub* and forge strong linkages between the formal and informal sector? Is it really possible for development agents (including NGOs) to use *iqqub* as an intervention point in mitigating poverty among the rural poor? Is it possible to effectively address problems of capital shortages in rural areas by mobilizing *iqqub* funds? How long can sponsors of micro-finance institutions go on ignoring the potentials of *iqqub?* As it is beyond the scope of this paper to address these questions, further research efforts are required to generate the required information.

CONCLUDING REMARKS

The thrust of this study was first to investigate, from the theoretical angle, the economic and social logic of *iqqub* and, second, to estimate its savings potentials. In particular, this study has focused on quantification of the economic importance of this fascinating but intriguing financial-cum-social institution. Using results of the Ethiopian Rural Household Surveys of the Department of Economics, AAU, and case studies, this paper has attempted to characterize *iqqub* and quantify its size and its potential contributions to the economy.

Iqqub draws its strength from its capacity to be flexible when confronted with constraints, adapt to new circumstances, and be accessible to people from every walks of life. *Iqqub* signifies the relevance and viability of indigenous knowledge systems of rural and urban people.

The economic potential of *iqqub* has been found to be enormous. A conservative estimation exercise has suggested that potential savings through rural *iqqub* in the three major regional states of Ethiopia is equivalent to about 18 percent of the total capital of the banking system in 1998/99. Similarly, estimated savings through rural *iqqub* was equivalent to 30 percent of outstanding loans provided to the agricultural sector by the banking system. Moreover, this study has suggested that potential annual savings through *iqqubs* in Amhara, Oromia, and SNNP are equivalent to capital required to establish five private banks, 215 micro-finance institutions and 1,372 credit and saving associations.

Evidence from the survey areas has suggested that *iqqub* funds are used for different purposes including purchase of food, investment, repayment of loans and other purposes. *Iqqub* serves the multiple purposes of the poor and the better off, as well. *Iqqub* appears to be responsive to shocks such as food shortages, which are often caused by drought. Perhaps, development agents could explore ways of addressing rural and urban poverty by mobilizing the enormous potentials of *iqqub*. Can we consider *iqqub* as "the bank of the poor"?

Evidence from rural Ethiopia reinforces the central argument of the limited economic literature, that ROSCAs permit individuals to reap gains from inter temporal trade, while autarkic saving is inefficient to the extent that lumpy expenditures are considered to be the primary goal of the individual. But, lumpy expenditure should not necessarily be limited to the purchase of durable goods. Even expenditure on food could be considered as lumpy as long as the purchaser prefers large lots of commodities to small ones. By purchasing food in large lots, during the post-harvest period, the individual definitely minimizes the unit costs of acquiring indirect entitlement (to food).

Far from being romantic about *iqqub*, one does recognize its internal weaknesses and the threats it is likely to encounter. *Iqqubs* may need more conducive policy to overcome their internal problems (such as default) and tackle external problems (such as inflationary pressure).

As suggested by the findings of this study, i*qqub* is too important to remain neglected by policy makers, development NGOs and by aid donors. *Iqqub* is an important financial institution that functions, virtually, without any legal framework. Neither have the expansion of micro-finance institutions nor the growth of credit cooperatives reduced the popularity of *iqqub*. However, in designing a legal framework for indigenous institutions, policy makers should draw lessons from the experience of other countries. A legal framework may undermine a ROSCA (as in India) or strengthen it (as in Japan and Nepal) (see Low 1995, Dekle & Hamada 2000, Seibel & Schrader 1999).

Our knowledge of the logic, procedures, and performance of *iqqub* is still limited. So far there has been no nation-wide survey of the qualitative and quantitative aspects of *iqqub* and other indigenous financial institutions in Ethiopia. I hope one day, the Central Statistical Authority would conduct a survey of *iqqub* and similar institutions like *iddir*, *debo*, and *wenfel*. On the basis of a wider data set, it could be possible to generate robust estimates of the potentials of *iqqub* in both rural and urban areas.

Notes

1. If the amount of the takeout (share) is equal to the sum needed for the planned expenditure, the average waiting time (W), which is expressed as a fraction of the duration of the entire cycle of the ROSCAs, required from each of the n members of the association is:

$$W = \frac{n + 1}{2n}$$

   Thus, for a given saving effort, in all but the smallest groups, the participation in the ROSCA reduces the average waiting time by close to 50% of the time, which would be needed if all savers had to save in isolation.

2. In Cameroon the *Njangeh* operates along with another financial institution known as "trouble bank". Members of the *Njangeh* contribute to the "trouble bank" and borrow (when in trouble) from it. Apart from giving its members access to short credit line independently of the ROSCA, the "trouble bank" collateralizes part of the transactions of ROSCAs.

3. The term "*medeb*" refers to the fixed sum of money contributed by each member. But, one member can have more than one *medeb*. Also, several members can team up and raise sum of money equivalent to the *medeb*. For example, in an *iqqub* in which the present author is a member, the *medeb* is birrs 400. Some members team up (say two persons contributing 200 Birr each) and raise one medeb, while the capable ones hold two medebs (i.e. 800 Birr).

4. "Transaction costs" can be defined as all costs of transacting, including cost of gathering information, contract enforcement, loan administration, travel to and from banks, etc. In general "transaction costs" can be defined as all costs arising from a transaction, except cost of the good or service involved in the transaction.

5. "Moral hazards", a term that has its origins in the insurance industry, occurs when a party to be insured can affect the probability or magnitude of the event that triggers payment. In is also known as problems of hidden action.

6. I am grateful to my colleague, Mr. Sisay Regassa of the Department of Economics, AAU, for making available the information on which these case studies are based. The case studies were from villages in Arsi zone of central Ethiopia.

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Annex 1: Average participation Rates in Iqqub

Regions	Round 1	Round 2	Round 3	Round 5	Average
Amhara	23.8	21.8	19.6	16.5	20.4
Oromia	8.9	4.9	5.9	5.95	6.4
SNNP	25.1	22.3	23.4	23.6	23.6
All sites	19.2	16.3	16.3	15.4	16.9

Source: Ethiopian Rural Household Surveys.

Annex 2a: ***Iqqub*:** Participation Rates, Membership, Annual Contributions, and Collections by Sites, Average of Four Rounds

No	Survey sites (Villages)	Participation rate (%)	Membership (No. of members per *iqqub*)	Contribn. (Birr/member)	Collection Birr/member
1	Dinki (Amhara)	5.2	72.0	122.02	113.2
2	Fagy (Amhara)	39.8	48.2	202.3	330.1
3	Yetmen (Amhara)	9.9	31.6	426.1	377.5
4	Shumsha (Amhara)	9.9	45.5	520.1	273.0
5	Sirba-Godeti (Oromia)	11.7	27.1	456.8	383.3
6	Adele-keke (Oromia)	5.6	12.2	694.3	511.7
7	Koro-degaga (Oromia)	2.1	26.8	86.0	305.3
8	Tirufe-kecheme (Oromia)	8.1	22.8	340.1	198.8
9	Indibir (SNNP)	58.9	39.9	271.9	250.1
10	Azedebos (SNNP)	16.4	49.1	211.6	209.0
11	Adado (SNNP)	20.0	24.0	299.3	207.3
12	Gara-godo (SNNP)	12.8	13.9	158.5	148.7
13	Dooma (SNNP)	19.6	31.3	191.9	148.3
	All sites (Av.)	16.9	34.2	306.2	265.9

Source: Ethiopian Rural Household Survey

Annex 2b: Summary of Annex 2a by Regional States

Regional states	Participation rate (%)	Membership (No. of members)	Contribn. (Birr/member/ year)	Collection (Birr/member/year)
Amhara	20.4	49.3	238.1	318.7
Oromia	6.5	22.2	413.7	304.5
SNNP (South)	23.6	31.4	246.2	208.7

Source: Ethiopian Rural Household Survey.

Annex 3: Contributions to *Iqqub* (Birr/member)

Region	Round 1	Round 2	Round 3	Round 5	Average
Amhara	225.55	224.5	104.8	401	238.9
Oromia	683.0	388.5	150.8	432.7	413.7
SNNP	213.41	249.9	89.6	431.6	246.1
All Sites	373.97	287.6	115.1	421.8	300.0

Source: Ethiopian Rural Household Surveys

Annex 4: The Use of *Iqqub* Funds, Fifth Round (Percent)

No.	Study Sites (Villages)	Food	Clothes & other household goods	Invest-ment	Repayment of loans	Others	Total
1	Dinki (Amhara)	50.0	-	50.0	-	-	100
2	Fagy (Amhara)	59.1	9.1	11.3	11.4	9.1	100
3	Yetmen (Amhara)	20.0	60.0	-	-	20.0	100
4	Shumsha (Amhara)	100.0	-	-	-	-	100
5	Sirba-Godeti (Oromia)	33.3	50.0	16.7	-	-	100
6	Adele-keke (Oromia)	71.4	28.6	-	-	-	100
7	Koro-degaga (Oromia)	-	50.0	50.0	-	-	100
8	Tirufe-kecheme (Oromia)	100.0	-	-	-	-	100
9	Indibir (SNNP)	82.4	-	5.9	5.9	5.9	100
10	Azedebos (SNNP)	100.0	-	-	-		100
11	Adado (SNNP)	27.8	22.3	16.7	-	33.3	100
12	Gara-godo (SNNP)	30.8	53.8	7.7	-	7.7	100
13	Dooma (SNNP)	45.0	55.0	-	-	-	100

Notes:

1. *"Investment" stands for total expenditure on livestock,, building materials, and other assets.*
2. *This table refers only to results of the 5th round, and, as such, it does not show yearly fluctuations. For example, Yetmen, a site where food has the lowest share, reported no expenditure on food during the third round (1995).*

Source: Ethiopian Rural Household Survey

Annex 5: Estimating the Economic Potentials of *Iqqub* in the Three Major Regions in Ethiopia

Estimates	Amhara	Oromia	SNNP	Remarks/ explanation
Total rural Population in 2000	14,615,000	19,706,000	11,557,00	CSA's Projection See CSA 1994 Population & Housing Census (PHC)
No. of rural household	3,044,792	4,105,417	2,407,708	Assuming household size of 4.8, see CSA's 1994 PHC
Participants: No. of households participation in iqqub	621,138	262,747	568,219	No. of households weighted by participation rates for each region, i.e. weighted by 0.204 for Amhara, .064 for Oromia, & .236 for SNNP
Total contribution to iqqub (saving in Birr)	147,892,950	108,698,430	139,895,510	Multiply total participants by corresponding contributions (by household) for each region, i.e. Birr 238.1 for Amhara, Birr 413.7 for Oromia, & Birr 246.2 for SNNP

Estimated total annual Savings (contributions for the three regional states = 147,892,950 + 108,698,430 + 139,895,510 = **396,486,890** million Birr per year

Annex 6: Continued Performance Indicators of formal Financial Sector

I. Deposit mobilized by all banks in Ethiopia in 1998 = 17,705 million Birr (MEDac 1999, Survey)

II. Number of commercial banks in Ethiopia in 1999 = 8 of which private = 7 (NBE, Annual Report 2000/2001).

III. The total capital of the banking system = 2,200 million Birr (NBE Annual Report 2000/2001).

IV. Average capital of the 6 private banks in Ethiopia in 1999/2000 = 73.6 million Birr per bank (NBE, A. R. 2000/2001).

V. Capital of 21 micro finance institutions in 2002 = 38,733,000 Birr (NBE, A.R. 2001/2002).

VI. Total resources mobilized by the banking system in Ethiopia in 1998/99 = 4,700 million Birr (NBE, A.R. 2000/2001).

VII. Outstanding loans to the agricultural sector by the banking system in 1998/99 = 1,316 million Birr (NBE, A.R. 2000/2001).

VIII. Total asset of 761 credit and savings associations in Ethiopia in 999 = 220 million Birr.

Annex 7: Estimating The Number of Formal and Semi-Formal Financial Institutions That Can be Financed Through Savings Using Potential Iqqub in The Rural Areas of Amhara, Oromia, and SNNP

Institutions	**Av. Capital (million Birr)**	**Savings of *iqqub* (million Birr)**	**Potential No. of institutions that can be established**	**Remarks**
	(1)	(2)	(2÷1)	
Private banks (6 in number)	73.6	396.5	5	
Average Capital of micro finance institutions	1.844	396.5	215	1.844 million Birr are obtained by dividing total capital by 21 (where 21 MFI are reported)
Credit and saving association	0.289	396.5	1,372	0.289 = 220÷761