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5. Author(s)

1. J.D. Von Pischke
2.
3.

6. Contributing Organization(s)

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SEMINAR ON INFORMAL FINANCIAL MARKETS IN DEVELOPMENT

ROSCAS: STATE-OF-THE-ART FINANCIAL INTERMEDIATION

J.D. Von Pischke
Industry, Trade & Finance Division
Asia Technical Department
The World Bank
Washington, DC

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The Ohio State University

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ABSTRACT

Millions of rotating savings and credit associations (RoSCAs) exist in developing countries. They are informal groups that intermediate among their members according to a standard but flexible formula: accumulating pools or "hands" of members' savings contributed in fixed amounts at specified times, and awarding hands to each member in turn until all have received it.

Analysis of RoSCAs reveals the preferences of their hundreds of millions of members. For designers of development projects and financial policies that seek to bring more people into contact with formal financial institutions, RoSCAs provide a benchmark or project design standard, a starting point for strategic thinking about financial services for the poor and a test of implementation plans.

RoSCAs:
State-of-the-Art Financial Intermediation

by J.D. Von Pischke

"...traditional forms...
set standards against which
new forms must be compared."

Goran Ohlin[1]

A fundamental justification for government and donor-supported intervention in finance is to correct deficiencies in the performance of financial markets. Intervention can occur directly only through the formal financial sector because that is the only part of the market that government controls. Many times, however, the alleged deficiencies that are cited as justification for intervention are thought not to rest within the formal segment of the financial market, but to lie beyond the frontier of formal finance. Hence, changes in the configuration of the formal market are expected to overcome what intervenors consider to be the problems of informal finance. These include high rates of interest on loans, presumed exploitive relationships between debtors and creditors, alleged incapacity to mobilize savings, an expected inability to handle large amounts of funds, fraudulent practices and insensitivity to government priorities exhibited by a failure to target the use of credit.

Experience has shown overwhelmingly that direct intervention to displace informal finance, to limit its alleged abuses or to overcome its presumed shortcomings has a pathology of its own. This pathology has two central features. First is a generalized and terribly costly failure to establish viable formal financial institutions to intermediate among large numbers of those utilizing informal finance. Second is a failure to create systems that are capable of

1. "A New Case for Personal Savings in Development Policy?" in Denis Kessler and Pierre-Antoine Ullmo, eds., *Savings and Development*. Paris: Economica, 1985. p. 81

protecting themselves from flagrant rent-seeking abuses by those exercising political and administrative power.

Part of the reason for this massive financial and institutional fiasco is that the paraphernalia of formal finance is used as the starting point for the design of intervention. This is necessitated by reliance on the formal sector as the channel for intervention. Commercial bankers are made to do what they have purposely avoided, which is to undertake what to them is the high-cost business of dealing with small clients. Specialized lenders are established to move into areas that the regulated market has shunned, such as agricultural finance, small scale industrial lending and housing, which cannot generally be accommodated within the cost structures of the formal credit system and the chilling effects of interest rate regulations or government ownership of financial institutions.

The RoSCA Benchmark

An alternative approach to the problem of creating improved financial services for those beyond the frontier of formal finance consists of attempting to learn from informal models and using these rather than formal models as a platform for innovation. While the retail commercial bank or specialized term lender in developed countries is the model for designing intervention working from the formal to the informal, the most important model for working from the informal to the formal is the rotating savings and credit association, or RoSCA.

The suitability of the RoSCA as *the* credit or financial sector project design benchmark arises from three important features. One is its *ubiquity,* as suggested by the variety of its local names, which signifies its general viability and applicability in most parts of the developing world. Second, it unambigously *intermediates.* Third, it is a *collective* activity, signifying popular, voluntary acceptance and congruity with the norms and expectations of the diverse cultures in which it operates. Other informal financial arrangements appear not to combine these three characteristics in the high degree and profound form exhibited by the RoSCA.

The qualifications of the RoSCA as a standard for project design are demonstrated by a review of the functions and operations of the most simple or classic form of RoSCA. The classic RoSCA consists of not more than approximately 30 members who know each other, usually as a result of social, employment or locational bonds; who have little or no access to formal finance; and who agree to contribute a fixed sum periodically to a pool or "hand" that is assembled and distributed by lot at meetings on agreed dates. One member receives the hand at each meeting. When each member has received a hand the cycle is completed, and the RoSCA disbands or reorganizes. Classic RoSCAs are typically established by an organizer who presides over meetings and takes the first hand. More complex forms of RoSCAs, sampled at the end of this paper, only serve to emphasize RoSCA advantages, including flexibility.

The review that follows demonstrates that classic RoSCAs meet three key tests of financial performance in a stunningly simple and elegant way: *they economize transaction costs, they lengthen term structures and they manage risks effectively*. Even more exciting is their ability to do so within diverse social contexts by creating incentives for good performance and responsible behavior, which accounts for their continued popularity and existence in millions of places in developing countries. Finally, they are essentially private and voluntary and enjoy high levels of immunity from rent-seeking behavior by nonmembers. These features are explored in the following sections of this paper.

RoSCAs Economize Transaction Costs

Saving and lending often involve high transaction costs for poor people. Saving may be difficult, for example, because of pressing uses for funds among the relatively large but intimate social groups into which their society is organized, such as extended families, age groups, and villages. Most members of the group are aware of each others' income and wealth, and asking for and giving assistance are a normal part of daily life. Within the group, at least one person may be sick or need help at any time, there are lots of children to be clothed and educated, and rites of passage require gifts and other expressions of participation. Reciprocity is important, and implies transaction costs.

Borrowing also requires transaction costs. Where no one is particularly wealthy, obtaining funds for a major purchase requires soliciting a number of people. Each loan acquired bears its own terms and conditions, some of which may not be specified in detail but constitute relatively open-ended obligations. These types of obligations involve risks, and soliciting assistance may subject the applicant to gossip and speculation concerning motives and behavior.

RoSCAs create pools of funds that are usually difficult for each member to assemble individually, which is an incentive to become a member. RoSCAs permit accumulation because of the contractual nature of membership. Some who might not be disciplined savers on their own will make regular deposits in a supportive social environment, swelling the stock and flow of intermediated funds. Membership is generally taken very seriously — to default on a payment is a stigma. Reported cases of RoSCA failure are infrequent, and suicides by defaulters have been recorded. Accordingly, accumulating funds to meet RoSCA obligations is recognized as important by the community. This gives the RoSCA a senior claim over the myriad of other purposes that enable kin, friends and neighbors to dip into each others' meager savings. Information about who has how much money when, which otherwise tends to deplete and possibly even discourage individual and communal savings through social pressure, is transformed through RoSCAs into a means to accumulate funds and protect members.

RoSCAs are organized so that transaction costs are minimized. No one except the organizer has to visit a number of people in order to form a group. Terms and conditions are relatively few, straightforward and applied consistently. Everyone's share can be equal, preserving social balance. The hand is assembled and awarded in full view of all members, making written records unnecessary. Each hand is distributed at the meeting at which it is gathered, leaving no group assets requiring management or offering temptations between meetings. This makes the RoSCA perfectly matched, as inflows and outflows are precisely synchronized. Perfect matching also permits RoSCAs to operate withough any permanent capital. Distributions of the hand by lot, among "nonprized" members, those who have not yet received a hand, greatly economizes an organizationally difficult and hence potentially costly aspect of RoSCA transactions, which is determination of the order of rotation.

The frequency of meetings is fixed with reference to members' cash flows. Shoeshine boys in Addis Ababa have daily *ekub* meetings because they receive cash every day. Office workers paid monthly have monthly meetings. Market ladies in West Africa have *tontine* or *esusu* meetings when markets are held, often on four, seven or 14 day cycles depending on locations and goods traded. Meeting times and locations obviously have to be convenient for members.

Speculation about members' motives or behavior can be muted by giving the RoSCA a specific purpose shared by participants. A Society for Iron Sheets, for example, enables members to obtain funds to put roofs on their houses in Kenya; a rice chitty enables each woman member to accumulate a special stock of rice for bad times in Sri Lanka; and a *hui* in Hong Kong, a *paluwagan* in the Philippines or a *susu* in Trinidad enables shopkeepers and stallholders to replenish their inventories periodically.

RoSCAs Intermediate

RoSCAs perform the intermediary functions of transforming future payments into immediate hands and accumulating small payments into larger pools. The number of members is identical to the number of hands, and each member receives one hand during the life of the classic RoSCA. At any point before the final hand, members who have not received hands are net savers, while those who have are net borrowers. Some members typically want early hands and may be called "borrowers," while "savers" seek later hands. As the RoSCA moves through its cycle, these savings and borrowing positions rotate.

RoSCAs Lengthen Term Structures

RoSCAs' basic financial feature is that they accelerate access to funds — all members except the recipient of the final hand receive the cumulative contractual amount of their contributions in the form of a hand before they could have accumulated it by acting alone, by saving the amount of their contribution each period. This results in more long-term financial behavior by more people. Some who might not bother to make regular deposits for a year, for example, are willing to do so if they can obtain the end result, a lump sum withdrawal equal to their years' deposits, in less than a year. This mechanism equates each member's debt capacity and savings capacity, which amounts to the sum of a member's periodic contributions.

RoSCA Incentives Reduce Risk

The major credit risk is that a winner of an early hand may fail to make subsequent contributions. Accordingly, the most interesting aspect of the RoSCA is how it sustains members' incentives to complete the cycle. While debt capacity equals saving capacity, at no point before the last hand does any member's net position equal either. A nonprized member's net position is the sum of her contributions, while the amount of the hand minus contributions made equals the net position of a prized member. At the outset all members other than the organizer are net savers, and the organizer obtains a hand of 1000, for example, against a payment of 100, yielding a net position of 900 borrowed. The member who receives the second hand has deposited 200 and receives a hand of 1000, giving a net position of 800, and so on through the final member who receives 1000 after having contributed 1000.

In the first half of the cycle the majority of members have an incentive to continue contributing so that they can obtain a hand. At this early stage the burden of the obligation to contribute is highest; as periodic payments are made the obligation to make future payments lightens. In the latter half of the cycle prized members have an incentive to continue contributing because the people who could be hurt by their not doing so, the minority of nonprized members and the organizer, are a diminishing number who are increasingly identifiable. During this phase members' burdens in the form of promised future payments become relatively small; most of their obligations to contribute have already been met, making it easier to contemplate continued participation. Also, the claims of members on each other are by then quite complex, creating a solidarity that fosters continued payment.

RoSCA credit is clearly saving-based, within a closed system of intermediation funded entirely by members' contributions. This closed circular structure helps maintain clarity among members regarding their organization's objectives and their personal responsibilities, and creates solidarity that makes the RoSCA immune from intervention by outsiders.

The juxtaposition of tension and resolution illustrated by RoSCA relationships is common to successful financial contracts. In this respect the RoSCA is intricate, yet fundamentally simple and elegant. It is state-of-the-art intermediation, as well designed to finance as a Bach fugue is to classical European music or as the Golden Gate Bridge is to the capacities of civil engineering at the time of its construction.

Risk Management and Transaction Costs

RoSCAs' risk management strategies are applied first in organization. Who should belong? How large should each member's contribution be? How many members should the RoSCA contain or how long should the cycle be? These are financial decisions that require information about the character, motives and financial performance of prospective members. Members will be especially interested in the stature and reputation of the organizer. In return for this trust, the organizer has control over who is admitted, and may even be expected to make good any defaults arising from the failure of other members to make contributions in full and on time. Organizational transaction costs and risk are borne most heavily by the organizer. For this service the organizer usually receives the first hand, which constitutes an interest-free loan repaid over the life of the RoSCA.

The fixed cycle or term of RoSCAs permits exclusion of poor credit risks from future cycles. This simple exit mechanism is balanced by easy entry: anyone with some friends who have congenial cash flows can form a RoSCA. RoSCAs require no tangible collateral and are purely cash flow lending operations that do not require supervision of the use of the hand. They work entirely on promise, trust, and consent, before other members as witnesses having intimate knowledge of each other. They create or confirm relationships among members that permit the application of certain sanctions. Participants clearly recognize that their relations with other members are the basis for transactions, and that their worth in the eyes of others depends significantly upon their performance under their shared promise.

The member receiving the hand is often responsible for refreshments at the meeting at which the hand is received, especially where RoSCAs meet in restaurants or bars. This transaction cost helps maintain group cohesiveness through eating or drinking together, and impresses on members the importance of continued loyalty to each other. Members can observe each others' health and moods, and gain indications of each others' current financial status. While many transaction costs are an annoyance to those who pay them, the obligation to provide hospitality for one's friends at RoSCA meetings is usually regarded as an honor or as an opportunity for fun, something to be enjoyed.

Flexibility and Modification

The classic RoSCA formula is flexible, and modifications are frequent to accommodate members' priorities and the environment. In more complex forms of RoSCA, for example, the hand may be distributed by predetermined order, but with arrangements for interruption to assist a member in need. Parallel funds for special purposes may also be subscribed by RoSCA members at their periodic meetings. Nonprized members may also privately arrange to borrow the hand from the member receiving it. Inflation of course skews the benefits of RoSCAs when the hand consists of a fixed amount of currency. This may be accommodated by distributing the hand by auction, by shortening the life of the RoSCA or by reversing the order of rotation in subsequent cycles.

Auction RoSCAs also respond to commercial considerations. Bids are quoted as a premium (1100 bid for a hand of 1000, for example) or as a discount (900 bid for a hand of 1000), with the difference between the winning bid and the amount of the hand being distributed to nonprized members. An interesting wrinkle in auction RoSCAs in commercial societies, such as in Hong

Kong, is the importance of keeping interest rates competitive, which requires active bidding. Some organizers, who receive a double share of interest over the life of the RoSCA as well as the first hand, exclude from subsequent RoSCAs the member who takes the final hand. This member need not bid seriously, as there is no competition for the final hand, and pays no interest while collecting interest from all other hands following the first. (It may be assumed that prospective members with a savings motive may bargain with the organizer for a double stake in order to receive two hands, one through bidding and the other at the end of the cycle.) In fixed order RoSCAs, by contrast, new members, who constitute the largest credit risk, are assigned the last hands.

RoSCAs may have very long lives, providing tremendous term structures. In parts of Asia, for example, chit funds have produced 20-year savings programs combined with 20-year loans. These typically consist of 20 members who contribute to the fund at an appointed time each year. The annual contribution is often assembled through participation in funds having an annual or shorter life, such as monthly chitties of 12 rounds or weekly chitties running for 50 or 52 weeks. Interestingly, the Reserve Bank of India has outlawed chitties having cycles in excess of seven years, presumably to protect nonprized members from the effects of inflation, from the risk of failure of the chit fund organizer (who is often a professional who runs chit funds for a living), or from disputes among members that could disrupt the fund, and possibly to reduce competition with the nationalized life insurance industry.

RoSCAs such as one formed by staff members of the IMF often include people who have access to formal finance but who prefer the social ambience the RoSCA offers. They may also compete with high cost or lethargic commercial banks or handle transactions that banks regard as too risky. *Tanamoshi* associations of businessmen of Japanese ancestry in Hawaii are reported to put up relatively large sums to finance construction of buildings, financing characterized by relatively high risks of cost overruns and from the thin capitalization of contractors. In Africa some RoSCAs intermediate large sums. For example, *tontines* with a hand equivalent to US$1 million are reported in Cameroon,[2] where these informal groups greatly economize transaction costs for people active in large scale modern sector activities. Many have written rules and procedures, and information systems that exclude those who defaulted on earlier or other *tontines*. Of course, RoSCAs may also be ideal means of intermediating private money beyond the reach of the predatory state.

2. *The New York Times*. Nov. 30, 1987. "Informal Capitalism Grows in Cameroon: Grass Roots Credit System." p. D8.

The Winning Formula

But to return to the classic RoSCA and its winning formula: How do the poor prefer to conduct their financial affairs? What sort of intermediation do they regard as useful and friendly? RoSCA operations provide valuable insights into these important questions. The lessons or principles they suggest may be summarized as follows:

Institutional form:

- voluntary participation and
- autonomy and self-sufficiency.

Service delivery:

- related services, savings facilities and credit being the most basic,
- subjectively low transaction costs,
- convenience in time and place, and
- flexibility.

Terms and conditions of use of and access to financial services:

- savings-based credit, requiring a financial commitment from prospective borrowers,
- responsiveness to inflation where inflation is a problem, and
- information systems as a basis for dealing with risk.

Relationships between users and intermediary:

- discipline through periodicity and contracts,
- accountability by all parties concerned,
- face-to-face relationships as equals,
- establishment of a senior claim on members' resources,
- individual control over the end-use of funds,
- exclusion of bad risks, including enforceable exit mechanisms, and
- trust and confidence as the basis for credit relationships built on bonds other than just RoSCA participation.

In addition, several financial strategies are demonstrated by RoSCA operations:

- matching as a risk and liquidity management tool, which includes
- debt capacity determined by savings capacity; and
- conservation of capital and liquidity, which are not required to manage risk;

and, in auction RoSCAs,

- market based rates of interest, as set by members' bids in their own market.