Chit Funds as an Innovative Access to Finance for Low-income Households

1

Principal Investigators

Dr. Mudit Kapoor
Indian School of Business, Hyderabad, India

Dr. Antoinette Schoar
MIT Sloan School of Management, USA

Research Team

Preethi Rao, Research Associate
Sharon Buteau, Research Coordinator
Small Enterprise Finance Centre/Institute for Financial Management and Research

Table of Contents

List of Tables

List of Figures

Acknowledgment

Executive Summary

Chit Funds are indigenous financial institutions in India that cater to the financial needs of the low-income households, which have been excluded from the formal financial system. It is a mechanism that combines credit and savings in a single scheme. In a chit fund scheme, a group of individuals come together for a pre-determined time period and contribute to a common pool at regular intervals. Every month, up until the end of the tenure of the scheme, the collected pool of money is loaned out internally through a bidding mechanism to the most deserving member. This way, people who are in need of funds and those who want to save are able to meet their requirements. An interesting aspect of Chit Funds in India is that the industry is highly regulated and institutionalized.

In order to understand the intricacies of the Chit Fund model in India, the Small Enterprise Finance Centre at the Institute for Financial Management and Research at Chennai, India, in collaboration with professors from Indian School of Business and Massachusetts Institute of Technology, studied the size of the registered Chit Fund industry, how it serves the members, what is the cost of funds and finally what is the size of its unregulated counterparts. In order to study the size of the industry, we collected data from the Office of the Registrar of Chits in five different states in India − Tamil Nadu, Andhra Pradesh, Karnataka, Kerala and Delhi − on the number and type of Chit Fund schemes registered over the years. To understand the profile of Chit Fund members and how they use the Chit Fund money, we surveyed a sample of around 400 Chit Fund members from each of the five states mentioned above. We collected data from different chit companies from the five states, on how members bid during monthly auctions over the years, to understand the average interest rate of Chit Fund loans. We interviewed managers and members of registered Chit Funds about their view of the unregistered Chit Fund industry to arrive at a guess-estimate of the size of the industry.

We find that the percentage of household participating in chit funds is between 5-10% of the total household population in each state (except Delhi). Money circulated via chits is around

Rs.50000 per household on an average (except Kerala). The number of chit schemes registered has been reducing over the years. The average percentage change in the number of schemes registered from 2003 to 2006 is approximately a negative 10%. While the number of schemes has reduced, the total value of registered chit schemes has increased by approximately 13% from 2003 to 2006. Our survey of the Chit Fund members shows that as much as 72% of the members participate in Chit Funds for saving. Additionally, 96% of the current and non-current Chit Fund members think that Chit Funds are safe. Majority of the current and non-current Chit Fund members belong to low-income households. According to our definition of poverty (less than USD 1.25 a day), on an average 50% of the Chit Fund members fall below the poverty cut off. The highest poverty rate is in Tamil Nadu and the lowest is in Delhi. We also find that there is no difference in bidding behavior between the poor and the rest of the population meaning that the poor clearly understand the Chit Fund mechanism. Moreover, it also suggests that the institutional arrangements which govern the functioning of the chit scheme that have emerged seem to serve the interest of all participants irrespective of their socio-economic status. Perhaps, this could explain why this industry has survived for such a long period of time. Our analysis of the bidding data shows that the average loan interest rate ranges between none (when the member is a saver in the scheme and does not bid) up to 3.5% per month for a 25 month scheme. Usually the interest rate peaks when approximately $1/3^{rd}$ to $1/4^{th}$ of the tenure is over. This also reflects our finding that 72% of the members participate for savings. Our estimates in two major metropolitan areas suggest that on average the size of unregistered Chit Funds is about 67 times of the registered industry in Delhi and 3.1 times in Chennai. In the rural areas, the proportion of unregistered to registered Chit Funds might be much higher. The results of the research have been elaborated in the forthcoming sections.

Our findings point to the fact that though Chit Funds are an important source of finance for small businesses and low-income households in India, there has been a general exodus of low value chit schemes from the registered Chit Fund market. This is mainly because registered Chit Funds find it less lucrative to serve the poor due to the increased cost of operating such schemes imposed by the regulators. We find that the Chit Fund industry addresses the savings needs of

people, is considered very safe and also offers loans at lower interest rates than moneylenders. In order that these benefits reach the poor, we propose to test different schemes for the poor in collaboration with Chit Fund companies across India and understand how Chit Funds can be developed as an innovative access to finance for low-income households.

1. Introduction

1.1 Study Objective

Chit fund model is an easy and innovative method of access to finance for the low income households. It caters to the needs of different sections of the society, mainly in the income-generating households. Chit schemes have traditionally been generic, differentiating only in value and duration. The need for customization of products, to address varied requirements of chit members, is evident. In this regard, the Small Enterprise Finance Centre at Institute for Financial Management and Research, along with principle researchers from Indian School of Business (ISB) and Massachusetts Institute of Technology (MIT) Sloan School of Management, has undertaken to study the nature and extent of the Chit fund industry, need for financial education and customization of chit schemes, and eventually design and test new financial products that will further enhance the value of financial services provided via chit funds.

The research objective is to:

1. Determine the size of the chit fund industry (registered and unregistered) and document recent trends.
2. Understand the financial needs of poor households and also determine to what extent their financial needs are met by registered chit funds.
3. Estimate interest rates in registered chit funds.

1.2   What are Chit Funds?

Chit funds are the Indian equivalent of the Rotating Savings and Credit Associations (ROSCA) that are famous throughout the world. ROSCAs are a means to 'save and borrow' simultaneously. It is considered one of the best instruments to cater to the needs of the poor. It enables poor people to convert their small savings into lump sums. The concept of chit funds originated more than 1000 years ago. Initially it was in the form of an informal association of traders and households within communities, wherein the members contributed some money in return for an accumulated sum at the end of the tenure. Participation in Chit funds was mainly for the purpose of purchasing some property or, in other words, for 'consumption' purposes. However, in recent times, there have been tremendous alterations in the constitution and functioning of Chit funds.

While in most places ROSCAs are user-owned and organized informally, in India, chit funds have been formally institutionalized as well. Legally recognized firms provide a variety of chit schemes. Under the Chit Fund Act, this industry has been highly regulated and is governed by stringent rules. This institutionalization of the chit funds (a) makes it easier for poor or illiterate people to know exactly what different chit schemes the chit companies offer, (b) provides an option to people to participate in schemes where members need not know each other; hence there is a larger diversification of the idiosyncratic risks. This makes it easier to provide chit schemes in urban settings where social linkage among members might be weak, (c) to some extent ensures transparency in the operations, (d) given that the law determines the size of the bidding and the commission the company can charge, it encourages competition among chit fund firms to improve services to clients, and (e) legal recognition also helps the chit fund operators to scale their operations. It allows the chit fund operator to use the legal means to handle defaults and more importantly it infuses faith in the clients that there are sufficient checks and balances which will prevent opportunistic behavior. In return the chit fund companies take a fee from the clients

to cover their expenses, in the form of a commission. The chit fund company provides a variety of mechanisms by which the savings of the members can be transformed into lump sums. The main mechanisms are; savings deposit which allow a lump sum to be enjoyed in future in exchange for a series of savings made at present, loans which allow a lump sum to be enjoyed at present in exchange for a series of savings to be made in the future and, insurance which allows a lump sum to be enjoyed at some unspecified future time (for example, daughter's marriage) in exchange for a series of savings made both at present and in the future.

How do they work?

A chit scheme generally has a predetermined value and duration. Each scheme admits a particular number of members (generally equal to the duration of the scheme), who contribute a certain sum of money every month (or everyday) to the 'pot'. The 'pot' is then auctioned out every month. The highest bidder (also known as the prized subscriber) wins the 'pot' for that month. The bid amount is also called the 'discount' and the prized subscriber wins the sum of money equal to the chit value *less* the discount and the fixed fee to the foreman. The discount money is then distributed among the rest of the members (or the non-prized subscribers) as 'dividend' and in the subsequent month, the required contribution is brought down by the amount of dividend.

To illustrate the above, let us consider an example of a chit scheme with the following characteristics. Chit Value = Rupees (Rs) 500000 ($10000), Duration = 50 months and Members = 50. The contribution in this case would be initially Rs.10000 ($200) per month per member. In the first month, the collection would, therefore, be Rs.10000 ($200) multiplied by the number of members i.e. Rs.500000 ($10000). This amount is called the 'pot' which is auctioned out at the end of the month. Now let us assume that the highest bid in the first month auction is Rs.100000 ($2000). This is called the 'discount'. The highest bidder now gets the amount equal to the chit

value, less the discount, less 5% commission to the foreman[1], i.e. Rs.375000 ($7500). The discount amount is then divided among the 50 members equally (the dividend for the 50 members work out to roughly Rs.2000 ($40) each). For the subsequent month, therefore, the contribution of these members reduces by the amount of dividend (i.e. the contribution in the second month for the members would be Rs.8000 ($160)). This process gets repeated for all months till the end of the scheme. The contributions are the same for each member, but the total amount taken out or bid by each member varies. For instance, in a 20 month chit scheme, the cash flows of a member who takes the loan in the second month and the cash flows of a member who takes the loan in the nineteenth month would be as follows:-

Cash Flows of a member who takes the loan in the second month:

Month	Prized Amount/ Loan	Contribution
1	0	-2500
2	37500	-2000
3	0	-2000
4	0	-2000
5	0	-2000
6	0	-2000
7	0	-2000
8	0	-2000
9	0	-2000
10	0	-2075
11	0	-2125
12	0	-2175
13	0	-2225
14	0	-2275
15	0	-2330
16	0	-2400
17	0	-2425
18	0	-2475
19	0	-2495
20	0	-2500

---
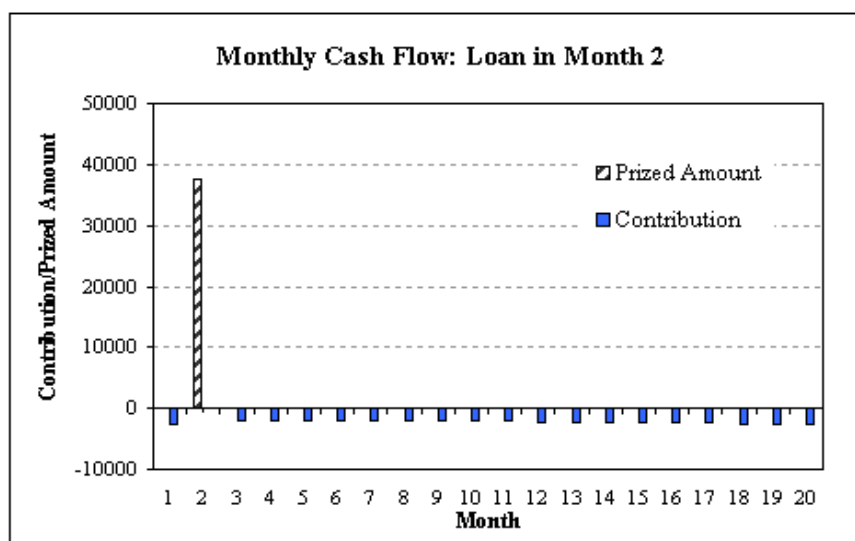
[1] Foreman's commission is charged at 5% of the chit value i.e. in our example above, Rs. 25000 ($500). Foreman's commission is the primary source of income for the chit fund company.

Cash Flows of a member who takes the loan in the nineteenth month

Month	Prized Amount/ Loan	Contribution
1	0	-2500
2	0	-2000
3	0	-2000
4	0	-2000
5	0	-2000
6	0	-2000
7	0	-2000
8	0	-2000
9	0	-2000
10	0	-2075
11	0	-2125
12	0	-2175
13	0	-2225
14	0	-2275
15	0	-2330
16	0	-2400
17	0	-2425
18	0	-2475
19	47400	-2495
20	0	-2500
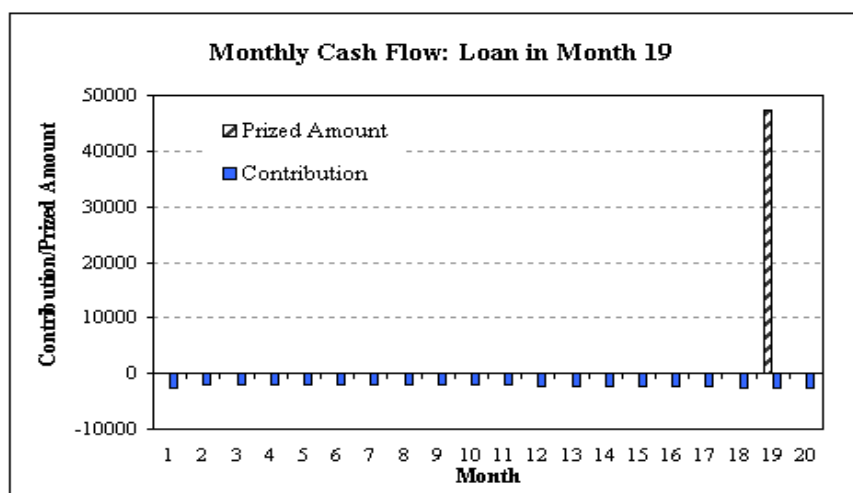
There are many variations to the above mentioned process depending on the scheme, preference of the members, capability of the company and so on.

Like any other financial industry, there are default and late payments. The default rate in the registered Chit Fund industry is estimated to be no more than 2% in a given scheme[2]. The usual procedure followed by Chit funds when faced with defaults is the following:

– Oral correspondence, Reminder by mail, Legal notice, Case filed in Court
– Salary, collateral and personal property attached by the court
– Surety/Guarantor asked to pay, or company pays

[2] Source: Self-reported interviews with registered chit managers

In case of default or delayed payment, the Chit Fund organizer has to put up the liquidity on behalf of the defaulting and delaying members.

Why use Chit Funds?

In many parts of India, Chit Funds address gaps left by the traditional banking sector. They mobilize huge amounts of small savings, and in return allow members to have access in the form of loans to lump sum amount of money that they would often not be able to get from traditional banks. Easy accessibility and flexibility are important aspects of this form of financing. Compared to banks, Chit Funds require less documentation, are more flexible about collateral, and allows to determine own interest rate (within the constraints of a given chit scheme). Furthermore, there is no need to determine upfront whether funds are used for saving or borrowing. This is a salient feature of chit funds as it not only puts in place a disciplined saving mechanism, but it also allows to access cash when needed. In addition, as Chit Funds use the funds of the participants there is much less capital requirements for the institution (unlike banks).

Literature shows that the primary uses of Chit Funds are the following:-

- To address consumption needs such as marriage, education, property purchase and so on.
- To pay off costlier loans from outside sources like loan from money lenders.
- To address working capital, business expansion or start-up capital needs of small businesses.
- For emergency needs or simply as savings for future needs.

Our survey results also show that Chit Funds are mainly used as a tool for saving and as a source of loan for consumption, business and emergency purposes.

Limitation

Among the limitations of Chit Funds, as only one person every auction can win the "pot", participants cannot be sure that they get loans whenever needed. If there are multiple bidders, the "pot" will go to the highest bidder or be allocated through a lottery if the bids are the same in a given auction. This could potentially be detrimental to people who cannot delay their consumption or investment, as they are in desperate need of funds. They might have to resort to money lenders or other informal sources offering very high interest rates. There could also be a scenario where, a member in desperate need of the money is actually successful in winning the "pot", but ends up with an extremely high interest rate. This also highlights another limitation of the Chit Fund. In order to function optimally, there is a need to ensure that the need for funds from the members in a given scheme is idiosyncratic. Thus the selection of members in a given scheme requires a balancing act between savers and borrowers, as Chit Funds have less liquidity than banks that have thousands of savers and borrowers. The Chit Fund organizer plays a very important role in ensuring that the groups are well balanced between savers and borrowers

1.3 Registered vs. Unregistered Chit Funds

A Chit Fund can be either "registered" or "unregistered". Registered Chit funds are organized by Chit Fund firms/companies and regulated by the Chit Fund Act. They are in essence impersonal contracts that depend on market forces. Unregistered Chit Funds are unorganized and run by friends, relatives or personal groups. They are personal contracts that do not depend on market forces but more on personal ties. Unregistered Chit Funds which exceed Rs. 100 ($2) in chit value are illegal in India, although it is widely known that the unregistered Chit Funds industry is still very popular in rural areas and among the poor population in urban and semi-urban areas.

1.4 Regulation

The regulation of the Chit Fund industry was put in place by the Government of India to address the problem of misuse of informal Chit Funds by unscrupulous promoters and founders running away with the participants' funds, leaving the members with little recourse to retrieve their money back.

Introduction to Chit Fund Acts

The first enactment of chits was made by Government of Travancore (Kerala) in the year 1914. Subsequently many states in India formulated and enacted chit acts. With the collapse of big chit companies in the early seventies, the Government of India constituted a special committee to undertake the study of chits, its implications and benefits or problems to the Indian economy. On the recommendation of this committee a special chit act was formulated under the name of 'The Chit Funds Act 1982' by the Parliament of Union Government. In Karnataka this Central Chit Funds Act was promulgated in 1984 along with the Chit Fund (Karnataka) Rules 1983.

The other Chit Fund Acts that are in force are as follows:-

The Andhra Pradesh Chit Funds Act, 1971, the Kerala Chitties Act, 1975, the Maharashtra Chit Funds Act, 1974, the Tamil Nadu Chit Funds Act, 1961 as in force in the state of Tamil Nadu and in the Union territories of Chandigarh and Delhi, the Uttar Pradesh Chit Funds Act, 1975, the Goa, Daman and Diu Chit Funds Act, 1973, and the Pondicherry Chit Funds Act, 1966.

Important points from The (Central) Chit Funds Act (1982):-

1. The State Government may exempt any Chit fund from all or any of the provisions of the Central Act.
2. According to this Act, no bank can commence or carry on chit business after the commencement of this Act.
3. This Act does not apply to any Chit fund the amount of which does not exceed one hundred rupees.

4. This Act extends to the whole of India except the State of Jammu and Kashmir.

5. According to this Act, the chit manager needs to deposit 100% of the chit value with the Registrar of Chits prior to the commencement of the chit scheme. This deposit will be refunded to the chit manager on the successful completion of the chit cycle.

6. A Chit fund registered under this Act needs to have its accounts audited by a qualified Chartered Accountant. The fixed deposit made at the beginning of the scheme will be refunded only on the submission of the audited Balance Sheet and Statement of Accounts.

7. The Act also requires all registered Chit funds to impose a 40% cap on the bidding amount. This 40% is calculated on the chit value of the scheme. This bid-cap is administered to ensure that the bid does not rise uncontrollably leading to subsequent default by the bidder. The minimum bid is restricted to 5% of the chit value which is the foreman's (or chit manager's) commission.

Points of difference between Acts prevailing in different states of India

Most of the provisions of the Central Act apply to the Chit funds run in different parts of India. However, the State Acts may override certain provisions as deemed necessary. For instance, the Andhra Pradesh Chit Funds Act 1971 had previously required the chit managers in that state to deposit only 50% of the chit value with the Registrar of Chits prior to the commencement of the chit scheme. This provision has been amended recently with the adoption of the provision from the Central Act that requires 100% deposit from chit managers. Similarly, the Kerala Chitties Act was amended recently to include a provision which stipulates that companies can float chit schemes only amounting to 50% of the foreman's asset, whereas in other states that adopt the Central Act, companies are allowed to float chit schemes up to ten times the foreman's assets. The Kerala Act also imposes other stringent rules that have resulted in many companies registering themselves outside the state (primarily in Jammu and Kashmir where the Central Act does not apply). One should also note that in states which do not enact a State Chit Fund Act, the Central Act will automatically prevail.

Costs of Registration

Registration of a chit scheme entails numerous fee payments and other formalities, such as filing of returns, maintaining minutes of the meeting, auditing of accounts and so on, that need to be satisfied by the chit manager. The Registrar of Chits of a particular jurisdiction is responsible for registering the chit funds in that jurisdiction. As a first step in the formation of a group or scheme, prior sanction needs to be obtained from the Registrar. The prior sanction is granted at the filing of an application and at the payment of fees of Rs.50 ($1). Subsequently the company needs to file a chit agreement with every member in that particular group. The fee for the purpose is around Rs.20 ($0.4) per member. Once the chit agreement is filed and approved, the certificate for commencement of the scheme is issued.

The registration process generally takes around two months to complete. There is no subsequent requirement for renewal of the registration. Once the scheme commences, the chit manager has to file the minutes of each auction with the Registrar every month along with a fee of around Rs.4 ($0.08). Other costs of registration include fees payable on transfer of membership and on any other filing requirement that may arise during the course of the scheme.

2. Size of the Registered Chit Fund Industry in India

2.1 Background

In the following we will map out the size of the registered Chit Fund industry in India. No previous effort has been made to document the size and recent trends of the registered Chit Fund

industry in India. This is mainly because the data is not digitalized or available at a central access point that could be reviewed as required. The majority of the data is in fact stored manually in disparate locations. We hence set out to collect and collate the information from various locations to assess the characteristics of the industry. Prior to our work, the perception of the regulators has been that it is a small industry.

Every state in India has a state Chit Fund Act which requires Chit Fund companies to register chit schemes (also referred to as the "bye law") with the office of the registrar of chits. We concentrated our research on five states in India – Tamil Nadu, Andhra Pradesh, Karnataka, Delhi and Kerala – where the Chit Fund industry is more prominent. We covered a total of 91[3] districts from all the five states where each district has at least one chit registrar office. For some larger districts there could be more than one office.

2.2   Data collection methodology and description

We visited all the registrar offices and collected data on each chit scheme that was registered between 1st April 2001 and 31st March 2007. For each chit scheme we have obtained data on chit value, duration (also refers to the number of tickets or members), name of company offering the scheme and date of registration. We use this data to determine the trends and the size of the registered Chit Fund industry in different states in India

---

[3] In Kerala, we collected data from the Kerala State Financial Enterprises (KSFE), a government-run chit company, which has operations in 14 districts. We collected macro data on total money circulated via chits and household participation from KSFE head office in Thrissur.

2.3   Comparison with scheduled bank financing

Table 2-1 Scheduled Bank Deposit and Credit and Chit Fund Money Circulated 2006

State	Scheduled Banks (USD)				Chit Funds (USD)	
	Deposits		**Credits**		Total money circulated (millions)	Amount per capita
	Amount (millions)	Per capita	Amount (millions)	Per capita		
Andhra Pradesh	24,184	300	19,842	246	1,481	258
Delhi	54,872	3,197	37,782	2,201	56	400
Karnataka	27,733	494	21,300	379	NA	NA
Kerala	16,402	480	10,120	296	39	12
Tamil Nadu	27,469	423	29,083	448	761	236

Source: Bank - Quarterly Statistics on Deposits and Credit of Scheduled Commercial Banks, March 2006 & 2007, RBI. Chit Funds – State Registration Office.
Note: Amount per capita is calculated on all state household population for scheduled banks and on all chit fund household participant for the chit industry.

The total money circulated via Chit Funds for the year 2006 as compared to bank finance is indicated in the above table.

2.4   Comparison between different states

The different states that we focused our research on vary in their socio-economic characteristics. This difference plays an important role in our analysis because it leads to variations in the usage and viability of different schemes. For example, in our sample we find that in Delhi the concentration of businessmen/women is quite high and correspondingly the average chit value operating in Delhi is higher when compared to the other states. This coincides with the fact that Delhi has a higher per capita income. Hence, in order to compare the trends in the Chit Fund industry across the five states, we would first like to understand the state-wise differences. The

table below sets out the states-wise details on per capita income, population, unemployment rate, literacy rate, and poverty rate.

Table 2-2 State-wise Socio-economic Comparison

State	Per capita Income[1]	Population[2]	Unemployment Rate[3]		Literacy Rate[4]	Poverty Rate[5]
			Rural	Urban		
Andhra Pradesh	476	80.4	0.7	3.6	61.1	11.1
Delhi	1,111	16.1	1.9	4.8	81.8	10.2
Karnataka	493	56.1	0.7	2.8	67.0	17.4
Kerala	557	33.6	10.7	15.6	90.9	11.4
Tamil Nadu	534	65.2	1.2	3.5	73.5	17.8

Source:

1. For Sl. No. 1-32 -- Directorate of Economics & Statistics of respective State Governments, and for All-India -- CSO.
2. Census Report 2001 - CD id CD 300
3. Rajya Sabha Unstarred Question No. 828, dated 29.11.2006 www.indiastat.com
4. Rajya Sabha Unstarred Question No. 660, dated 23.11.2001 & National Commission of Women. www.indiastat.com
5. Source: Planning Commission, Government of India (Based on MRP$, Consumption, 1$ PPP)

From the above table, we can see that Delhi has the highest per capita income and Andhra Pradesh has the lowest whereas it is vice-versa in terms of population. Also, Tamil Nadu has the highest poverty rate.

We excluded Karnataka from the comparison as the data maintained in the Karnataka registrar office was incomplete. There are a total of 9075 schemes that were registered out of which only 2883 schemes have data on date of registration. Thus a trend analysis was not possible for Karnataka though we had collected data from all the districts. In Kerala, we had data from KSFE on the total money circulated via chits and on household participation which we have used in our analysis.

2.4.1 Number of Chit Fund companies
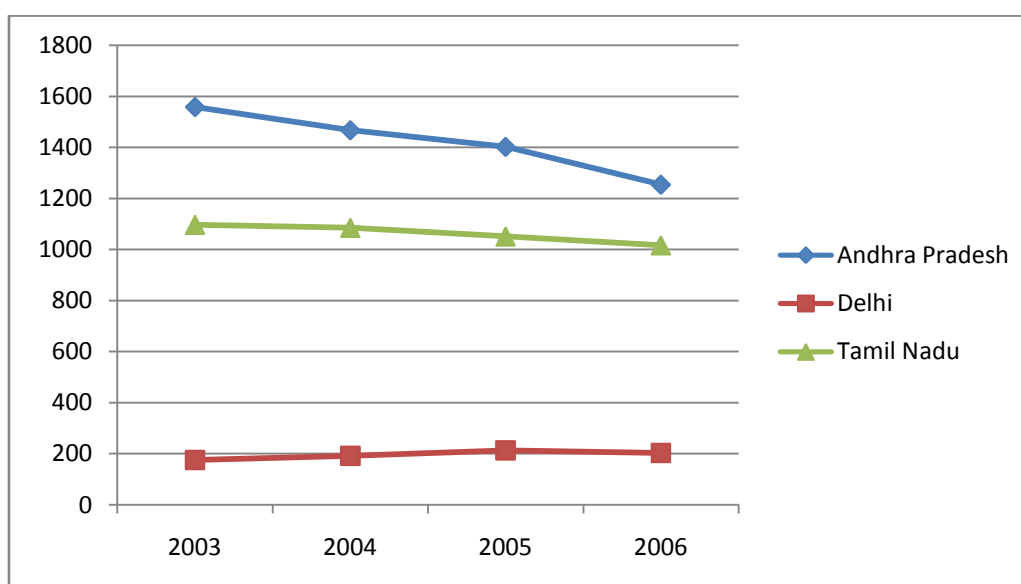
	2003	2004	2005	2006	% Change
Andhra Pradesh	1558	1467	1402	1254	-19.51
Delhi	176	192	213	203	15.34
Tamil Nadu	1097	1085	1051	1016	-7.38

The number of registered Chit Fund companies decreased by 19% in Andhra Pradesh and 7% in Tamil Nadu between 2003 and 2006. During the same time period, the number of companies increased by 15% in Delhi.

2.4.2 Number of chit schemes registered

	2003	2004	2005	2006	% Change
Andhra Pradesh	16092	11538	13454	11396	-29.18
Delhi	627	726	745	665	6.06
Tamil Nadu	13129	13438	13285	11755	-10.46

The number of chit schemes that were registered decreased by 29% in Andhra Pradesh and 10% in Tamil Nadu between 2003 and 2006. During the same time period, it increased by 6% in Delhi.

Chit Funds as an Innovative Access to Finance for Low-income Households

2.4.3   Total value of registered chit schemes
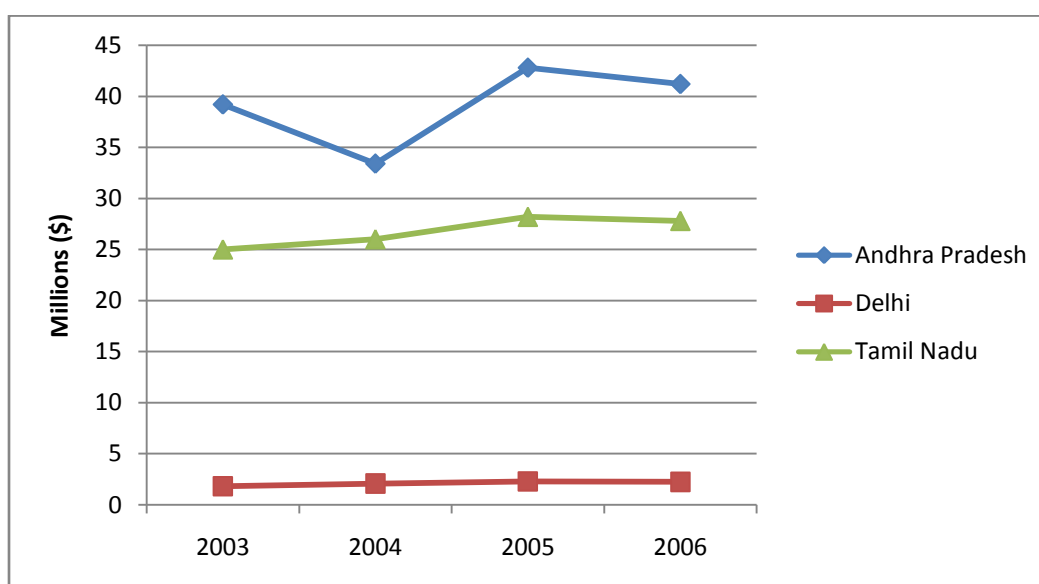
	2003	2004	2005	2006	% Change
Andhra Pradesh	39.2	33.4	42.8	41.2	5.1
Delhi	1.8	2.1	2.3	2.26	22.8
Tamil Nadu	25	26	28.2	27.8	11.2

The total value of registered chit schemes increased by 5% in Andhra Pradesh, 11% in Tamil Nadu and 23% in Delhi between the years 2003 and 2006.

25

2.4.4 Total money circulated via chits per household[4]
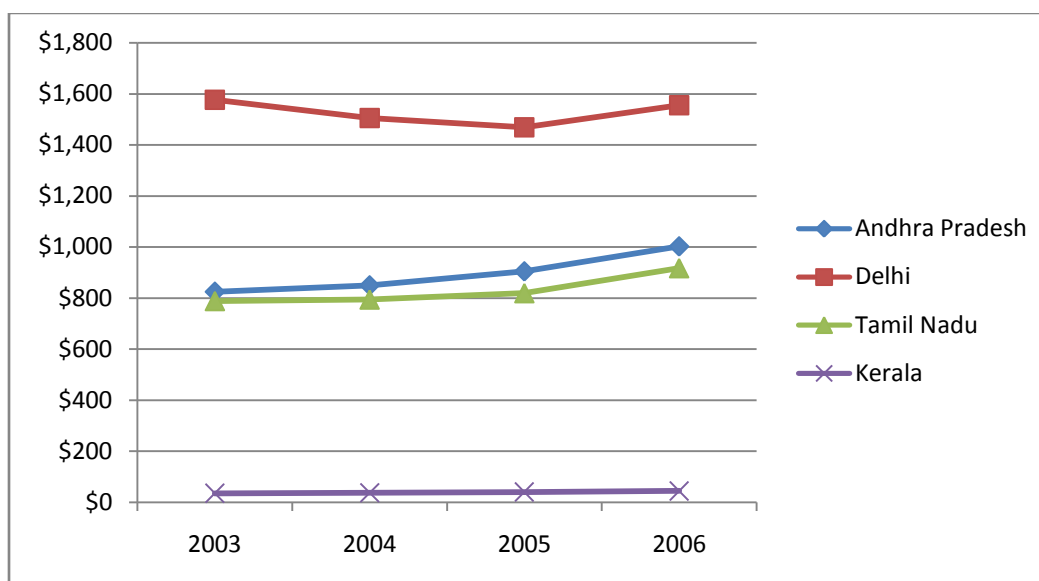
	2003	2004	2005	2006	% Change
Andhra Pradesh	825	850	905	1003	21.57
Delhi	1576	1505	1469	1555	-1.33
Tamil Nadu	788	794	819	917	16.37
Kerala	36	38	41	45	25

The total money circulated via chits calculated on a per household basis increased by 21% in Andhra Pradesh, 16% in Tamil Nadu and 25% in Kerala between 2003 and 2006. During the same time period, it decreased by 1% in Delhi.

---

[4] For each year we look at all the operational chit schemes. Part of this money will be distributed to auction winners, 5 percent of it will go to the Chit Fund company as commission and the remainder is redistributed among members as dividends. We divide this by the state-wise household population to control for differences between states. We assume 4 members per household

2.4.5 Share of households participating in Chit Funds[5]
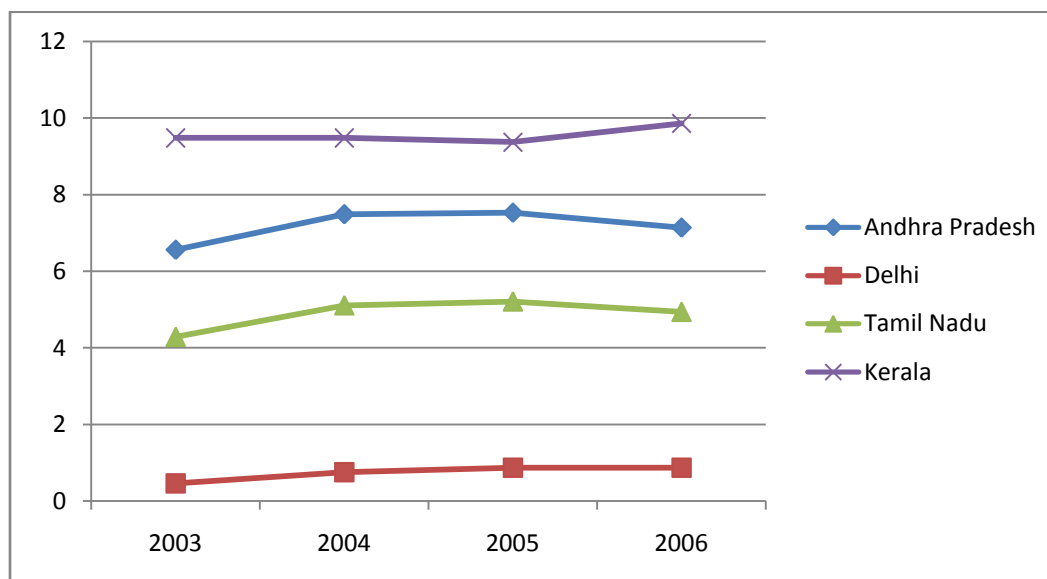
	2003	2004	2005	2006	% Change
Andhra Pradesh	6.56	7.49	7.53	7.14	8.84
Delhi	0.46	0.75	0.87	0.87	89.13
Tamil Nadu	4.29	5.11	5.21	4.94	15.15
Kerala	9.48	9.48	9.37	9.86	4

The share of households participating in Chit Funds increased by 9% in Andhra Pradesh, 89% in Delhi, 15% in Tamil Nadu and 4% in Kerala between 2003 and 2006.

---

[5] In a given year we calculate the number of people participating every month by aggregating the duration of every active scheme in that month and take an average across all the months to arrive at the average household participation for that year. We divide the yearly household participation by state-wise household population to control for differences between states. We assume 4 members per household

2.4.6 Percentage of low value schemes by year

Percentage of Equivalent Monthly Installement (EMI) < 2,000 Rs. by Year

State	2001	2002	2003	2004	2005	2006	% Change 2001-2006
Andhra Pradesh	57.5	53.9	54.5	46.6	42.8	38.0	-30.3%
Delhi	n.a.	n.a.	10.1	10.2	9.1	10.2	1.8%
Tamil Nadu	59.0	51.0	52.0	50.0	47.0	39.0	-25.0%

Percentage of Chit Schemes < 50,000 Rs. Chit Value by Year

State	2001	2002	2003	2004	2005	2006	% Change 2001-2006
Andhra Pradesh	52.8	49.2	49.2	42.0	37.0	32.4	-34.2%
Delhi	n.a.	n.a.	17.7	19.2	13.3	16.5	-6.6%
Tamil Nadu	63.0	60.0	60.0	60.0	58.0	52.0	-13.3%

The percentage of chit schemes with EMI (equated monthly installment) less than Rs.2000 and chit value less than Rs.50000 has been significantly decreasing over the years in Andhra Pradesh and Tamil Nadu. Regarding the state of Delhi, the same proportions have been constantly low over the same period.

2.5 Summary

The Chit Fund industry seems to be moving towards fewer but more expensive schemes. This is evident from the fact that there is a general decrease in the number of chit companies and schemes being registered but there is an increase in the individual ticket sizes.

Possible explanations for this trend could be the following:-

1. Increase in inflation and wealth in India could mechanically lead to this outcome.
2. Changes in regulations make it more expensive for chit companies to serve the poor: Towards the end of 2003-04 and early 2004-05 the government implemented a law which required Chit Fund companies to deduct tax from dividend income earned by subscribers

irrespective of the size of prize money. Those individuals who would not be in tax bracket could claim a rebate at the end of the accounting year. Nevertheless, this implementation significantly increased the operational cost to Chit Fund companies due to increased paperwork and the hassle of filing claims with tax authorities. Interestingly, this tax reduced the profitability in lower value schemes much more than higher value schemes. Because, the revenue to the Chit fund company is higher from large value schemes but the increase in cost due to taxes is identical across schemes of differing sizes. As a result many chit companies drastically reduced their exposure to lower value schemes. This led to a financial exclusion of a large number of small businesses and low-income households from the registered chit industry.

3. Shift of Chit Funds from registered to unregistered or maturation of industry: As explained in the previous point, the financial exclusion of low-income households from the registered industry perhaps pushed them into the unregistered chit industry where their investments are less secure. Also, some companies might have become non-viable as a result of the regulation change and perhaps have consolidated with bigger players in the industry.

All the above stated explanations seem to point to a disturbing trend within the Chit Fund industry since these points suggest that Chit Funds are in general excluding the poor from their target group mainly because they are perceived to be unprofitable to serve.

3. Characteristics and Financial Needs of Chit Participants

3.1 Background

Understanding the behavior and financial needs of the chit members is an important step in studying how to facilitate financial access for the poor through Chit Funds. It will allow us to identify current gaps in financial services, as well as determine if the financial needs of the lower income households can indeed be met by Chit Funds. In order to achieve this, a survey was conducted among Chit Fund members.

3.2 Data collection methodology and description

To collect client level information, a survey questionnaire was designed and comprised of the following sections: (1) Demographics (2) Financial details (3) Chit Fund Participation (3) Business Details (4) Financial Literacy and Risk Attitude. The questionnaire is available in Appendix B. It was also translated in the local language of the different states to ensure comprehension of the survey by the members. Chit Fund members contact information was collected from participating chit companies in all the five states of Tamil Nadu, Karnataka, Delhi, Andhra Pradesh and Kerala. We randomly selected a sample of approximately 1,000 clients from the client list provided by the participating companies (targeted sample is 500 in each state; we selected a buffer to ensure that we reach the target in case of unclear address or phone numbers and refusals). These clients were then contacted for their interest in doing an interview. In some instances, the person in whose name the chit schemes were registered was not actively involved in the scheme. In those cases, we specifically asked for the survey to be filled by the person actually operating the scheme. The acceptance rate was approximately 80%. Main reason for refusal was lack of availability or interest. Each interview was approximately 45

minutes and was conducted in person. Thorough back checks were conducted after the data collection process to ensure completeness and accuracy of the data.

Table 3-1 Sample Size by state[6,7]

State	Total Sample	Area Coverage			
		Major City		Non-Major City	
		N	%	N	%
Andhra Pradesh	426	76	17.8	350	82.2
Delhi	182 (410)	182 (410)	100	-	-
Karnataka	283	283	100	-	-
Kerala	366	61	16.7	305	83.3
Tamil Nadu	400	127	31.8	273	68.3
Total	1,657				

As shown above, where possible, the survey was conducted in different geographical areas of a given state. Furthermore, as we wanted to have a wide range of types of chit members, we surveyed current chit users and non-current chit users. Overall, the sample comprised of around 78% of current chit users. A further description of chit members and how they use Chit Funds is available in section 3.5 below.

---

[6] In Delhi, we completed the survey of 410 chit members. However, a thorough back-check was not possible as many of them could not be reached. Hence, we restricted our analysis to those members (182) whose responses could be back-checked. We have reported the analysis results for all the respondents (410) in the appendix.

[7] Major city is considered Chennai for Tamil Nadu, Hyderabad for Andhra Pradesh and Trivandrum for Kerala.

3.3 Demographics

Table 3-2 Demographics

Variable	Overall	By State				
		Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Gender (%)						
Male	83.1	75.3	80.8	88.0	89.6	82.6
Female	16.6	24.8	19.2	12.0	10.4	16.0
Age (mean)	43.4	44.6	43.1	44.1	42.4	42.9
Education (%)						
≤ 9 years of schooling	11.5	24.3	2.8	8.1	9.9	7.3
Attended High School	44.6	42.5	28.0	37.8	69.7	35.7
Graduate Degree	30.4	24.0	53.9	32.5	17.5	36.2
Post Graduate Degree	13.4	9.3	15.4	21.6	3.0	20.4

As evident from the table above, the Chit Fund industry is primarily dominated by male members. This is true for all the states and thus for the overall statistic as well. Another similarity between the data for all the states is the mean age of the population that ranges between 40-45 years. As far as the status of education is concerned, Delhi is the state with highest proportion graduates and lowest proportion of people not having attended high school. In contrast, Kerala has the lowest proportion of the former and Tamil Nadu, the highest proportion of the latter.

Table 3-3 Occupation and Income

Variable	Overall	By State				
		Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Occupation (%)						
Self-Employed	43.2	43.3	50.0	55.8	55.7	20.2
Salaried Employee (non-gov.)	22.7	22.8	24.7	19.1	19.7	26.8
Salaried Employee (gov.)	13.0	10.0	7.1	8.1	8.2	25.8
Housewife	10.0	16.8	8.8	7.1	6.6	8.9
Retired	5.3	5.5	6.6	5.7	2.5	6.6
Other	6.1	1.8	2.8	4.2	7.4	11.7
Monthly Income (%)						
≤ 200 $	32.4	60.3	11.0	16.3	29.5	28.6
] 200 $ - 400 $]	38.4	27.5	35.7	30.7	41.5	52.1
] 400 $ - 600 $]	16.7	7.5	28.0	26.5	18.6	12.2
> 600 $	6.7	2.8	17.0	18.0	1.0	3.3
Unknown	5.8	2.0	8.2	8.5	9.7	2.8

Note: Monthly Income in USD using the exchange rate @ 50 Rs./USD $

Analyzing the occupational structure of the five states, it can be inferred that for all of them, excluding Andhra Pradesh, self-employment is the most popular occupation followed by working as a salaried employee in the private sector. For the state of Andhra Pradesh, there is an almost equitable distribution of people working in the first three categories (self-employed, salaried employee (non-government) and salaried employee (government)). Assuming that the monthly income consists of the household income, Tamil Nadu has the highest proportion of lowest income households. Another notable difference is that Tamil Nadu has the highest proportion of chit members reporting to be housewives. Delhi and Karnataka have the highest proportion of highest income households than other states.

Chit Funds as an Innovative Access to Finance for Low-income Households

Figure 3-1 Frequency of Occupation based on Gender
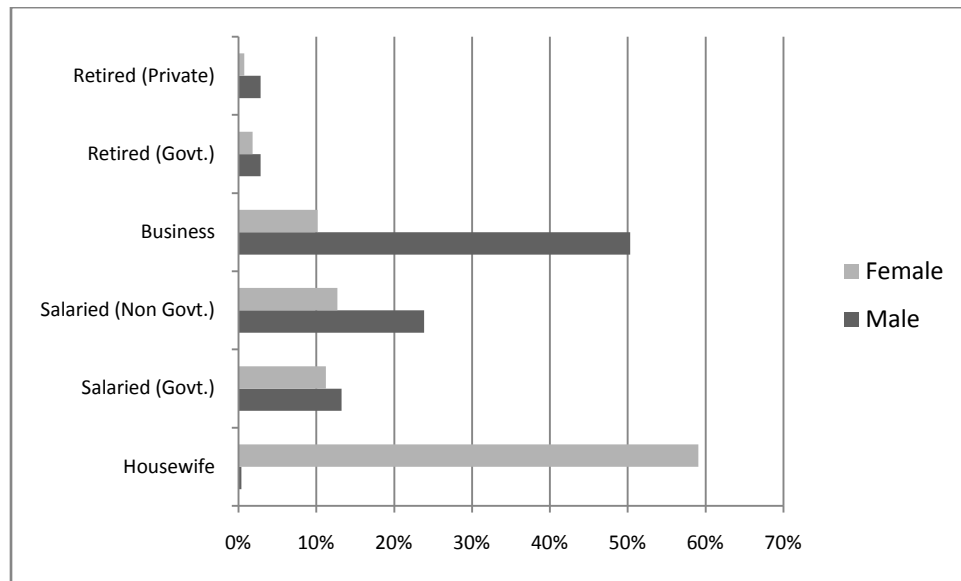
From the figure above, it is evident that most women are housewives whereas most men are either engaged in business or are salaried employees.

3.4 Financing details

Table 3-4 Banking Details

Variable	Overall	By State				
		Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Has bank account (%)	95.4	89.8	99.5	95.8	95.6	98.4
Type of bank account (%)						
Savings	93.8	96.4	91.2	87.8	93.7	96.7
Current	25.3	17.3	38.7	43.2	28.0	12.4
Deposit	9.8	6.1	5.0	3.3	15.4	14.3
Demat	3.5	3.9	2.8	9.6	2.0	0.7
Other	0.5	0.0	0.0	2.6	0.3	0.0
Has bank loan (%)	33.0	24.5	17.0	44.2	42.1	32.6
Type of bank loans (%)						
Business loan	33.1	17.4	41.9	32.8	56.5	16.6
Personal loan	35.3	40.8	35.5	32.0	27.9	42.5
Vehicle loan	17.2	9.2	32.3	27.2	11.0	17.3
Jewel loan	3.7	2.0	0.0	0.8	7.8	3.6
Others	26.7	33.7	9.7	40.0	10.4	31.7
Unknown	1.2	1.0	0.0	0.0	2.7	1.4

More than 90% of the population holds a bank account and this is true for all the states. As per the Chit Fund criteria, which requires the members to hold a savings account so that checks can be issued in their name, almost everyone (in all the states) has a savings account. The Reserve Bank of India (RBI) has promoted basic no frills bank accounts with low minimum balances and charges that are affordable to poor households. However, banks perceive theses accounts as less desirable products as they cannot charge transaction fees on these accounts and interest is earned on the float. As an example, an RBI study found that 87% of accounts in a representative district were inactive mostly due to little efforts of the banks to promote the savings benefits of the account to poor customers and to reach more remote locations. Thus, a more accurate measure of bank usage is the extent to which other types of bank accounts, such as the current account is used. This is because current account is mostly used for transaction and business purposes. After the savings account, current account is the most preferred type of account in all the states except

for Andhra Pradesh. Delhi and Karnataka have higher proportion of population using the current account as compared to the rest of the states.

Regarding bank loans, it is clearly evident from the data that Karnataka and Kerala are the states having over 40% of the member with bank loans. Among the people who have taken a loan, business and personal loans are the two most common and popular types of loan. For the state of Andhra Pradesh, however, the percentage of business loan holders is less than that of the vehicle loan holders.

Table 3-5 Preferred Mode of Savings/Loan

Variable	Overall	By State				
		Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Preferred mode of savings (%)						
Bank/Post Office	61.1	61.5	51.1	57.2	56.8	71.1
Chit Fund	27.3	28.5	33.0	29.7	23.5	25.4
Mutual Fund	5.2	4.5	11.5	6.7	6.6	0.9
At home	4.0	5.0	4.4	2.8	6.8	1.4
Other	0.5	0.5	0.0	2.1	0.0	0.2
Unknown	1.2	0.0	0.0	1.1	4.1	0.2
Preferred source of loans (%)						
Bank	63.9	67.0	39.6	80.6	51.9	70.4
Family	14.4	10.3	26.9	3.9	20.0	15.3
Chit Fund	13.2	12.8	23.6	7.1	18.3	8.9
Friends	5.8	8.0	7.1	5.3	4.4	4.7
Money Lenders	1.2	2.0	2.2	0.4	1.6	0.0
Other	0.2	0.3	0.0	1.1	0.0	0.0
Unknown	1.1	0.0	0.0	1.4	3.2	0.2
Preferred source of loans (low interest rates) (%)						
Bank	55.9	74.5	29.1	73.1	33.9	57.5
Family	15.2	9.8	40.7	7.4	0.0	27.7
Chit Fund	10.6	7.3	18.7	7.4	17.2	6.6
Friends	7.2	7.0	11.0	9.2	3.8	7.5
Money Lenders	0.5	1.3	0.0	0.4	0.6	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0
Unknown	0.9	0.0	0.0	0.7	2.5	0.7

Deciphering from the above table, in all the states and thus at the overall level, bank is the most preferred source for savings. However, Chit Fund is considered to be the preferred mode of savings for approximately 27% of the overall population. Similar proportions are found state-wise ranging from around 24% in Kerala to 33% in Delhi. Other saving sources such as mutual funds and keeping savings at home are much less preferred than Chit Funds and Banks. The figure below illustrates the overall order preference of savings source; Chit Funds are second favorite option after banks for over 40% of the members.

Figure 3-2 Overall Ranking of Preferred Mode of Savings
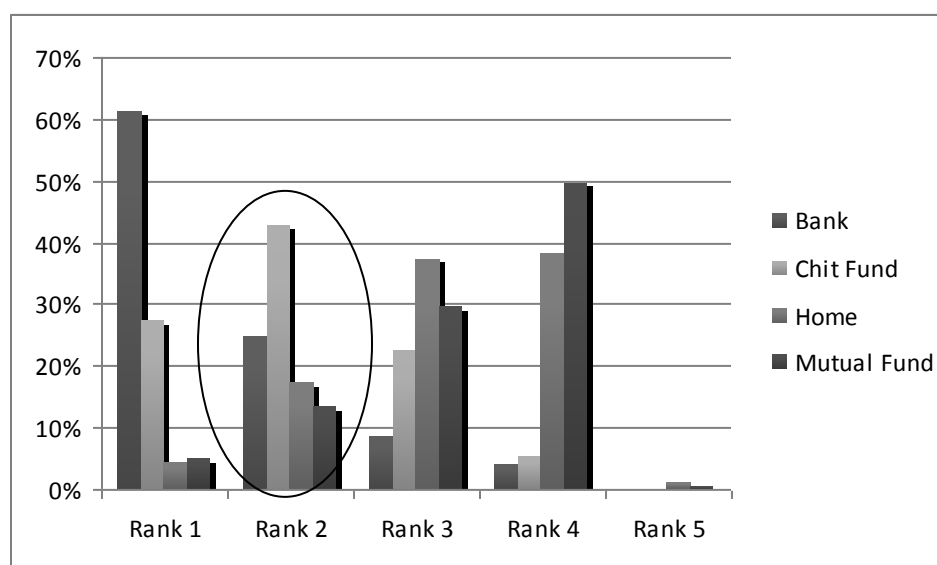
Also, in all the states and at the overall level, bank is the most preferred source for loans for over 50% of the chit members (except in Delhi) followed by family. Chit Fund is considered to be the preferred mode of loans for approximately 13% of the overall population. Between states, the proportion ranges from 7% in Karnataka to 24% in Delhi. Bank is also the most preferred source of loan on the basis of lowest interest rate in all states except in Delhi where family is most preferred. Chit Fund is considered to be the preferred source of loans based on lowest interest rates for approximately 11% of the overall population. Other loan sources such as money lenders and friends are much less preferred than Chit Funds, banks and family. The figure below

illustrates the overall order preference of loan source; Chit Funds are second favorite option after banks for over 35% of the members.

Figure 3-3 Overall Ranking of Preferred Source of Loans
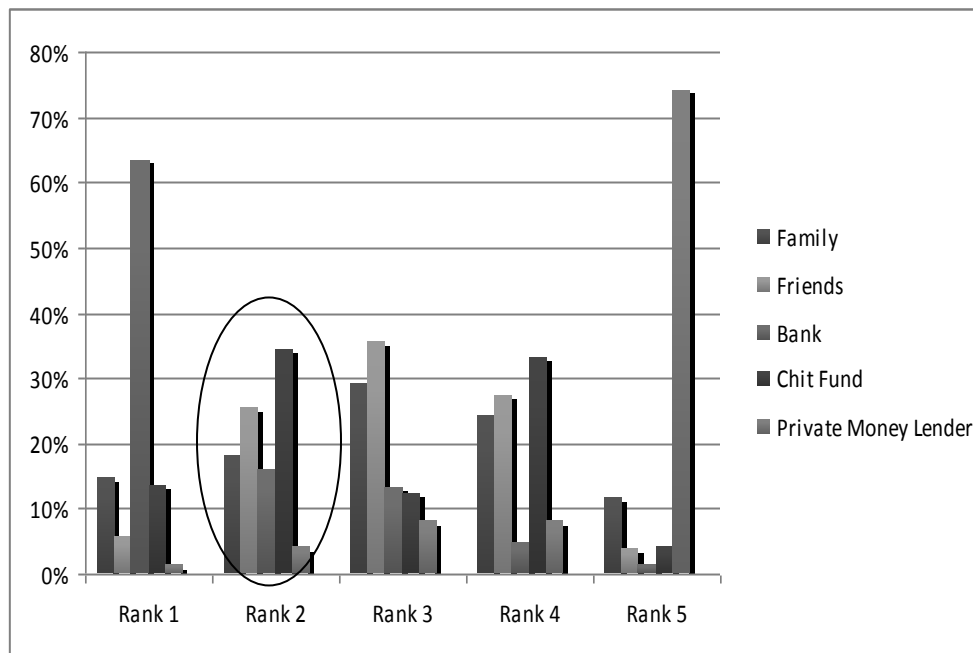
3.5   Chit Fund participation

Table 3-6 Chit Fund Usage

Variable	Overall	By State				
		Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Current Chit Fund user (%)	78.0	67.5	51.7	80.9	74.9	99.1
Regular participation in Chit Funds (%)	71.6	57.3	50.0	75.3	70.8	90.9
Length of participation in Chit Funds (%)						
≤ 5 years	47.0	49.3	31.3	43.5	55.5	47.0
6 - 10 years	32.2	27.8	42.9	26.2	31.7	37.8
11 - 20 years	14.4	12.0	15.9	23.7	9.6	12.0
> 20 years	5.0	10.5	6.6	4.2	0.8	2.6
Unknown	1.5	0.5	3.3	2.5	0.55	0.7

As can be seen from the table above, the percentage of current Chit Fund users varies over a wide range with 52% in Delhi and 99% in Andhra Pradesh. Overall, the statistic values at 78%. Percentage of regular participants of Chit Funds also varies along similar lines with 50% in Delhi (least) and 91% in Andhra Pradesh. At an overall level, around 72% of the people participate regularly in Chit Funds. In general, the length of participation in chit schemes is less than 5 years in all the states except for Delhi where it is primarily 6-10 years. Only in a very few cases the time period exceeds 20 years. For the state of Kerala, this happens in less than 1% of the cases.

Table 3-7 *Ex-ante* and *Ex-post* reason for Chit participation

Variable	Overall	By State				
		Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Ex-ante: Reasons for participation in Chit Fund schemes (%)						
To save	72.1	80.0	62.6	77.4	57.9	77.5
To raise capital for personal consumption	25.9	37.5	68.7	13.4	12.0	16.9
To invest in working capital	20.9	25.8	26.9	13.1	20.8	19.0
To raise capital for business	17.9	18.5	34.6	19.8	16.4	10.3
To raise capital and save	15.8	5.5	48.4	3.9	20.5	15.5
Other	5.4	9.5	1.7	9.2	2.5	0.9
Unknown	0.8	9.5	1.7	9.2	2.2	3.3
Ex-post: Reasons for bidding in a given month (%)						
Emergency needs	55.9	61.3	59.3	53.7	50.3	55.9
Business investment	30.0	31.3	42.3	34.6	30.9	19.7
Purchase household goods	23.3	38.3	18.7	18.0	16.7	20.4
Working capital needs	14.5	8.8	23.1	7.8	21.3	14.8
Health care	13.8	19.5	16.5	4.2	6.8	19.7
Marriage	12.8	18.0	14.3	9.5	8.2	13.4
Other	9.5	17.8	3.9	11.3	2.5	9.2
Unknown	3.1	0.0	1.7	0.7	8.7	3.3

Saving is seen as the most important *ex-ante* reason for participating in the Chit Fund schemes. Other prominent reasons across the states are consumption and business requirements. Overall and across all the states, the most important *ex-post* reason given for bidding in a scheme is the emergency requirement. Business investment and household purchase are the other prominent reasons except for the states of Delhi and Kerala where need for working capital also influences people to bid.

Figure 3-4 Frequency of *Ex-post* reason for Chit participation for different income classes
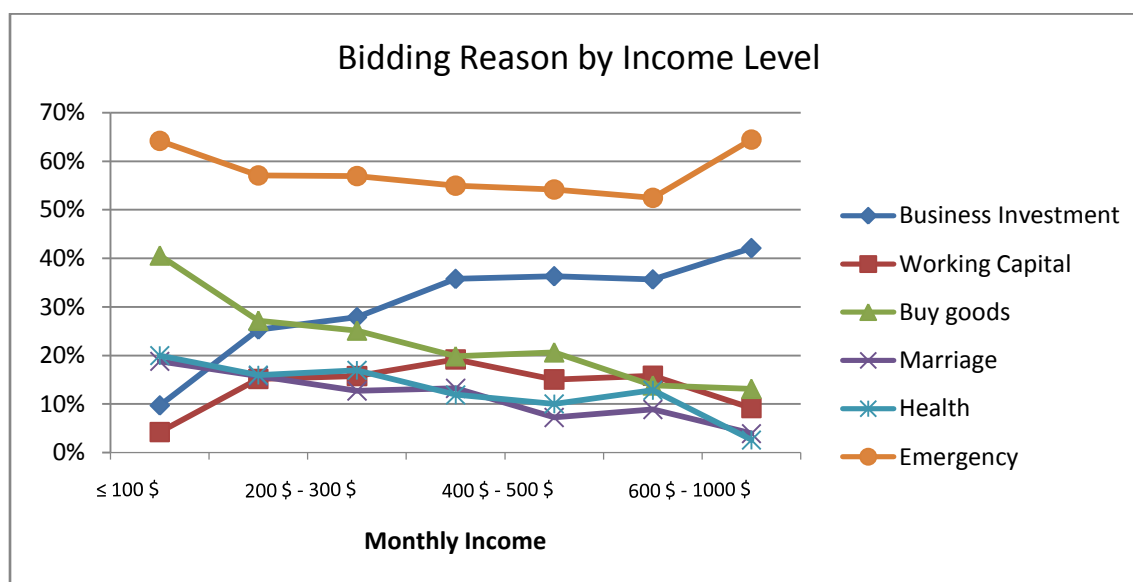
From the figure above, it is evident that as income goes up, the proportion of chit members bidding in Chit Funds for business investment goes up. However, the proportion of chit members bidding in Chit Funds for consumption needs (like buying goods, marriage, etc.) goes down with increase in income. This could mean that the poor among chit members usually use chit loans for consumption purposes whereas the rest of the population (majority business people) use them more for business related purposes.

Table 3-8 Bidding reasons by Gender

	Business Capital	**Buy Goods**	**Marriage**	**Health**	**Emergency**
Male	33%	15%	21%	12%	12%
Female	13%	9%	34%	14%	22%

It is evident that women usually bid in a chit scheme to meet marriage expenses; either their own or their family members'. On the other hand, men usually bid when there is a requirement in their business.

Table 3-9 Reasons for Saving in Chits Funds

Variable	Overall	By State				
		Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Reasons for saving in Chit Fund schemes (%)						
House purchase	26.9	33.8	13.7	21.6	27.6	29.1
Marriage	16.8	21.3	23.6	10.6	11.5	18.3
Jewel purchase	12.6	35.8	2.2	1.8	8.2	6.1
Vehicle purchase	12.5	17.8	7.7	5.7	17.2	10.1
General	30.7	11.8	46.7	48.1	28.4	32.2
Other	26.5	35.5	29.7	25.1	21.0	22.3
Unknown	3.9	0.0	0.6	0.7	11.2	4.7

As illustrated in the table above, there is no specific pattern observed in the data for different states as far as the reasons for saving in Chit Funds is concerned. For the state of Tamil Nadu, the reason is primarily jewel purchase while in the case of Delhi it is marriage purpose that drives people to save in the Chit Fund schemes. Likewise, the reason varies from state to state. From the figure below, it is evident that overall, the chit members seem to save in Chit Funds for no specific reason but to use it as general savings.

Chit Funds as an Innovative Access to Finance for Low-income Households

Figure 3-5 Overall Saving Purposes
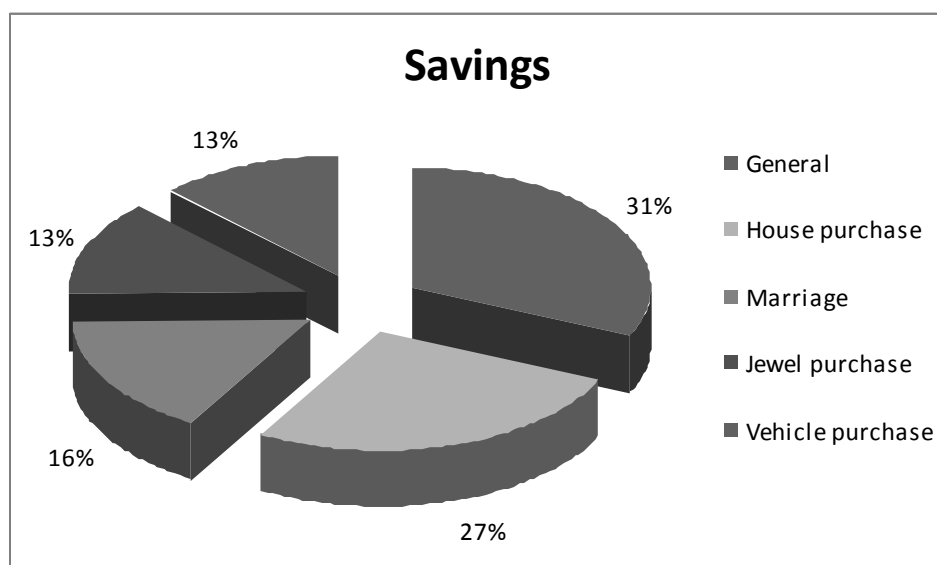
Figure 3-6 Frequency of reasons for saving in Chit Funds for different income classes
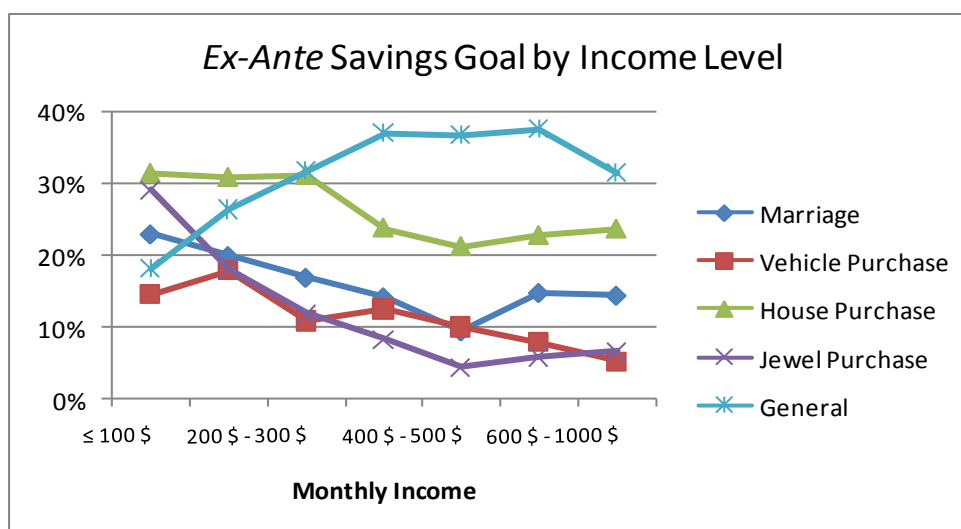
The trend in savings reasons as indicated in the figure above shows that, with an increase in income, savings in chits for vehicle, house and jewel purchase goes down proportionately.

Figure 3-7 Frequency of reasons for saving in Chit Funds for different education levels
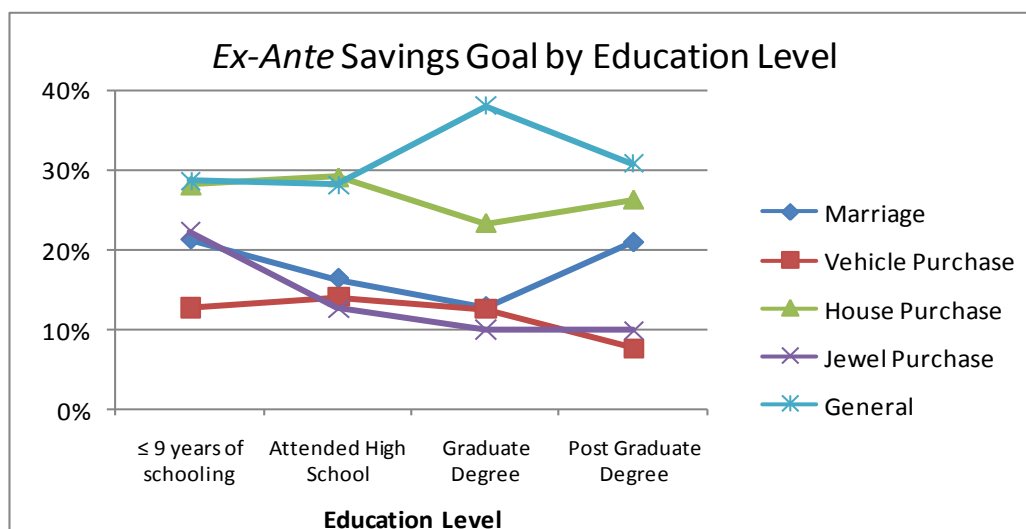
As shown in the figure above, the proportion of chit members saving in chits for specific purposes like vehicle, house or jewel purchase and marriage goes up with increase in education level. As education level increases, proportion of chit members saving in chits for general purposes goes down.

Table 3-10 Savings goal by Gender

	Marriage	Vehicle Purchase	House Purchase	Jewel Purchase	General
Male	16%	13%	25%	11%	32%
Female	16%	10%	32%	21%	30%

Most women save to purchase a house while most men save for no particular reason but as general savings. As would have been expected, a higher proportion of women save for jewel purchase than men.

Table 3-11 Reason for Participating in Chit Funds rather than Banks

Variable	Overall	By State				
		Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Reasons for participating in Chit Funds rather than a bank, (%)						
Better returns	50.8	58.3	58.8	42.1	29.8	61.7
Better interest rate	45.0	51.5	47.3	39.9	25.1	55.9
Less documentation / collateral required	42.6	37.3	39.6	25.4	82.2	26.5
More familiar	23.4	28.3	15.4	19.4	33.1	18.5
Better service (collect money from doorstep)	24.0	32.5	35.7	14.1	22.1	14.1
No bank access	7.5	6.3	11.5	8.1	4.4	9.4
Other	6.3	9.5	2.2	12.0	4.1	3.3
Unknown	1.3	0.3	0.0	0.4	2.5	2.4

From the table above, it is clear that overall and by state, better returns and better interest rates are the most important reasons for people to participate in Chit Funds rather than using a bank except in Kerala where 82% quote less documentation or collateral requirement as the reason for participating in Chit Funds rather than banks.

Table 3-12 Chits/Bank as preferred loan source by reasons for participating in chits rather than banks

	More familiar	Less documentation/ collateral	Better returns	Better interest rate	Better service
Chit Funds	22%	58%	46%	40%	28%
Banks	23%	38%	45%	43%	22%

There are not many variations in the reasons given by chit members for participating in Chit Funds rather than banks between those who prefer Chit Funds to banks for taking a loan. This is interesting because even though they prefer to participate in chits due to better returns, better service, familiarity or better loan interest in chits, they still prefer banks as a source of loan (at the same level). This may indicate that the preference is based more on perception than actual knowledge. However, a higher percentage of members, who said less documentation or collateral requirement is the reason they participate in chits as opposed to banks, also ranked Chit Funds as

the preferred source of loans. This indicates that one of the major advantages of Chit Funds over banks is the reduced paperwork and lower collateral requirements. It would be interesting to see how this aspect can be studied further and capitalized by Chit Funds to widen their markets.

Table 3-13 Illiquidity in Chit Funds

Variable	Overall	By State				
		Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Illiquidity in Chit Funds (%)	33.3	36.6	9.6	37.8	24.3	43.9
Options used during such time (%)						
Borrow from family/ friends/ colleagues	61.2	66.5	68.8	47.7	34.8	76.5
Wait till next chit auction	26.7	23.0	31.3	46.7	29.2	16.6
Borrow from money lenders	17.1	16.5	25.0	8.4	20.2	20.3
Borrow from business partner	5.8	2.6	12.5	2.8	12.4	6.4
Borrow from other chit members	4.2	0.7	12.5	1.9	5.6	7.0
Borrow from other chit funds	2.7	2.0	6.3	0.0	5.6	3.2
Had to let go of a good business opportunity	0.9	0.7	6.3	0.0	2.3	0.5
Other	10.5	15.8	6.3	28.0	1.1	1.1
Unknown	2.2	0.0	0.0	0.0	4.5	4.3

Delhi faces the lowest amount of problems related to illiquidity and Andhra Pradesh the highest. Tamil Nadu and Karnataka also face a significant amount of illiquidity problems. When faced with such a problem, people choose to borrow from family/friends/colleagues as their first preference. In Karnataka and Kerala, people also prefer to wait till the next chit auction. Borrowing from a money lender is not considered to be as preferable an option as expected but it is still far more prominent than borrowing from a business partner.

Figure 3-8 Overall Frequency of Illiquidity
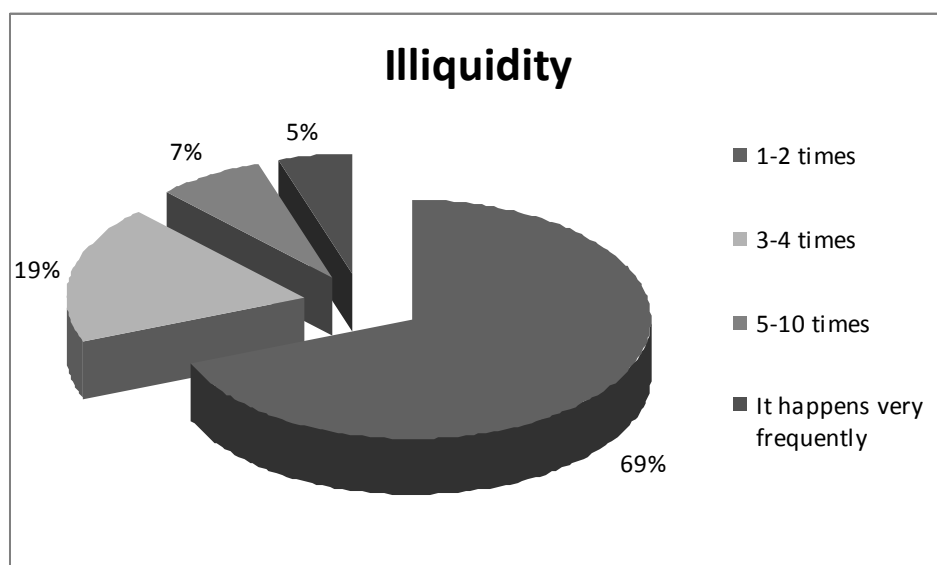
Overall, out of the people who said there were instances when they have not been able to win the chit auction when they needed money, 69% of them said it happened once or twice and around 20% said it happened 3-4 times. Only 5% said it happened very frequently. By state as well, the trends are similar with around 20-30% members facing illiquidity claiming to face it once or twice. Though the incidence of illiquidity is not very frequent, it is important to note that it is still a big problem faced by Chit Fund members.

Table 3-14 Bidding Behavior of Chit Members

Variable	Overall	By State				
		Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Timing of bid (%)						
Bid when need the money	53.7	38.8	53.3	59.7	70.5	50.2
Always bid late	20.8	43.8	23.1	23.3	4.1	9.4
Always bid early	19.4	15.0	12.6	11.0	15.3	35.9
Bid when no one else is bidding	3.7	2.3	7.1	3.9	3.8	3.3
Other	1.0	0.0	0.0	1.1	3.6	0.0
Unknown	1.2	0.0	3.3	1.1	2.7	0.2
Timing of bid within a cycle (%)						
Bid during middle of scheme	16.5	19.8	17.0	17.7	9.8	18.5
Always bid late	14.5	14.8	31.3	31.1	2.5	5.6
Always bid early	8.3	4.8	13.7	9.5	5.5	12.0
Other	2.8	2.0	0.0	8.1	2.2	1.6
Unknown	16.4	0.0	2.2	1.1	54.4	16.0

Considering time as the variable, people of Delhi and Karnataka show almost similar bidding behavior. On an average majority prefers to bid late versus early (except for the states of Kerala and Andhra Pradesh) and does not a-priori decide to bid, but opt to bid when they need the money. Very few people bid when no one else is bidding, which implies that people have an understanding of chit auctions and the optimal strategies that they should follow in order to obtain maximum gains.

Table 3-15 Bidding Strategy by State

Variable	Overall	By State				
		Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Calculating maximum bid amount (%)						
Interest rate of outside option	47.5	76.5	14.3	44.5	26.0	55.2
Rate of return for intended project	15.2	6.5	16.5	14.5	29.5	12.2
Both of the above	27.2	8.0	65.4	22.3	26.5	31.0
Other	6.6	8.8	1.1	17.0	5.7	0.7
Unknown	3.4	0.3	2.8	1.4	12.3	0.9

Analyzing the methodology followed by the people while calculating the maximum bid amount, it has been observed that they mainly use interest rate of outside option available to them as the guideline. People in Kerala, however, also use the rate of return for the intended project to calculate the maximum bid amount. In Delhi, both the interest rate and the rate of return are used for deciding the bid amount.

Table 3-16 Multiple Membership

Variable	Overall	By State				
		Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Multiple membership (%)	26.1	17.8	12.0	37.1	13.1	43.4
Reasons for participating in multiple schemes (%)						
To allocate funds for different activities	29.6	12.8	33.8	50.0	35.2	17.8
For surety purposes	53.9	6.0	71.6	20.0	61.9	53.0
To have more chance of wining in an auction	19.0	3.1	17.6	30.0	11.4	20.5
Unknown/Refused to answer	18.8	1.2	6.8	15.0	9.5	29.2

Multiple-membership is defined as participating in more than one Chit Fund scheme. Around 26% of the chit members participate in more than one scheme at a given point of time. Karnataka and Andhra Pradesh particularly have a lot of multiple memberships. This is an interesting aspect

as there is some "compartmentalization" behavior in allocating funds, though money in Chit Funds is fungible. Such compartmentalization defies rational thinking.

Table 3-17 Chit Value & Duration

State	Chit Value (US $)			Duration (months)			Equivalent Monthly Installement (EMI)		
	Mean	Std	Median	Mean	Std	Median	Mean	Std	Median
Andhra Pradesh	$4,588	$5,632	$2,000	46	8	50	$101	$140	$50
Delhi	$3,720	$3,346	$2,400	28	6	30	$155	$216	$100
Karnataka	$4,946	$11,201	$2,000	30	8	30	$171	$405	$80
Kerala	$2,451	$4,441	$2,000	25	11	20	$112	$221	$80
Tamil Nadu	$1,692	$1,750	$1,000	30	11	25	$55	$47	$40

Note: Chit Value and EMI in USD using the exchange rate @ 50 Rs./USD $

The average chit value ranges between approximately $1,700 in Tamil Nadu and $4,900 in Karnataka whereas the median ranges between $1,000 in Tamil Nadu and $2,400 in Delhi. Likewise, median EMI ranges between $40 in Tamil Nadu and $100 in Delhi. The duration ranges between 20 months in Kerala and 50 months in Andhra Pradesh.

Figure 3-9 Overall Safety Perception of Chit Fund Companies

50
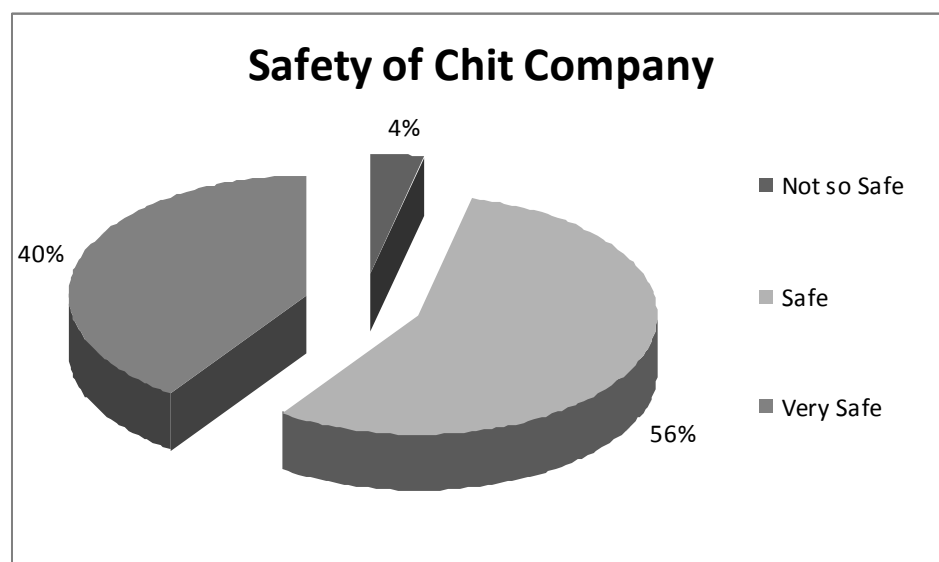
Figure 3-10 State-wise Safety Perception of Chit Fund Companies
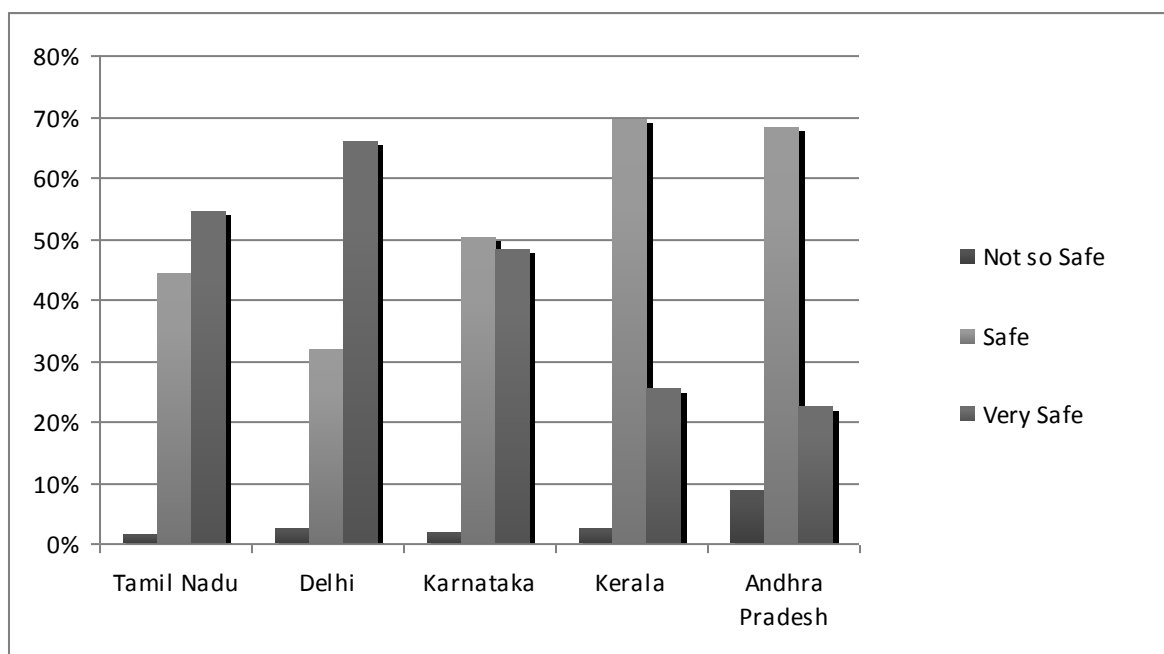
Overall and by state, Chit Funds are considered very safe or safe by majority of the members. As much as 96% of chit members overall think that the Chit Funds they participate in are safe. In Delhi and Tamil Nadu more than 50% of the chit members think that the Chit Fund companies they participate in are very safe.

Table 3-18 Safety perception of Chit Funds loyalty and participation status

	Loyalty	Current usage	Non current usage
Safety	85%	95%	94%

Around 85% of the chit members who consider Chit Funds to be safe are also loyal to the Chit fund company they are participating in. This brings out the fact that Chit Funds operate based on the trust relationship with their members. Moreover, around 95% of the chit members who

consider Chit Funds to be safe are also current users of Chit Funds indicating that the trust relationship holds true even in the present scenario. Interestingly, 94% of the non current users of Chit Funds also think Chit Funds are safe, which indicates that they did not discontinue participating in chits due to safety concerns.

3.6 Business details

Table 3-19 Business Type

Variable	Overall	By State				
		Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Industry Category (%)						
Apparel	14.6	24.3	26.0	10.8	6.9	7.0
Food Industry	12.8	16.2	3.0	10.1	16.2	14.0
Trading	10.7	8.7	12.0	5.7	17.6	5.8
Engineering	9.2	4.0	12.0	13.3	9.8	7.0
Housing & Construction	6.1	3.5	3.0	9.5	6.9	7.0
Paper & Print	5.8	1.7	9.0	9.5	6.4	2.3
Chemicals	4.7	2.3	3.0	9.5	3.9	4.7
Transportation	4.7	5.2	3.0	7.0	2.9	5.8
Metal Industry	4.0	9.8		3.8	2.5	1.2
Wood Industry	3.1	1.2	7.0	3.8	2.9	1.2
Decoratives & Entertainment	2.2	0.6	4.0	1.3	2.5	4.7
Financial Services	1.8	1.2	2.0	2.5	2.0	1.2
Service (Professional)	1.5	-	1.0	3.8	1.5	1.2
Communication	1.0	2.3	-	0.6	1.0	-
Packaging	0.7	-	3.0	1.3	-	-
Education	0.6	1.2	-	-	-	2.3
Others	6.9	4.0	7.0	6.3	9.3	8.1
Unknown	9.7	13.9	5.0	1.3	7.8	26.7

A majority of self-employed chit members, overall and by state, are engaged in the apparel industry followed by the food and the trading industry. In Kerala, however, the most prominent business type is trading whereas in Karnataka it is engineering.

Table 3-20 Business Revenue & Employees

Variable	Overall	By State				
		Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Combined monthly revenue (%)						
≤ 200 $	17.9	22.3	6.6	5.1	27.2	16.4
] 200 $ - 400 $]	30.0	20.9	28.6	15.4	43.2	35.8
] 400 $ - 1000 $]	19.6	16.6	36.3	18.0	17.9	9.0
> 1000 $	32.6	40.3	28.6	61.5	11.7	38.8
Number of employees (%)						
No employee	8.8	14.6	4.4	5.9	9.4	5.1
1 employee	15.1	16.5	4.4	8.1	25.0	12.8
2 employees	21.5	22.0	15.4	11.0	30.7	23.1
3 employees	9.2	7.9	8.8	7.4	10.9	11.5
4 employees	6.8	5.5	11.0	8.8	4.7	6.4
5 employees	8.3	11.6	7.7	8.1	7.3	5.1
> 5 employees	30.3	22.0	48.4	50.7	12.0	35.9

Note: Monthly Revenue in USD using the exchange rate @ 50 Rs./USD $

The table above shows that a major proportion of Delhi's businesses fetch combined monthly revenue in the range of $400 - $1000. For the state of Karnataka this value exceeds $1000. Also, a large proportion of the businesses in the two states employ more than five people. This simply implies that these two states are more business oriented and have big businesses. Analyzing on similar lines, Kerala has more small businesses with lower turnover and lesser number of employees. Comparing the data across states, Tamil Nadu is the state with the highest percentage of one-man businesses, i.e. businesses with no employees.

Table 3-21 Source of Funds for Business

Variable	Overall	By State				
		Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Source of funds for starting business (%)						
Personal savings	71.1	76.9	79.1	70.9	67.7	59.3
Loan from friends/ relatives	17.1	15.6	15.4	18.4	19.1	15.1
Loan from bank	15.0	12.1	14.3	19.0	17.7	8.1
Existing business capital	13.8	12.7	33.0	7.6	11.8	11.6
Loan from chit fund	9.4	6.4	6.6	7.0	15.7	8.1
Selling land/ property	5.3	7.5	7.7	1.3	5.9	4.7
Loan from money lenders	2.5	4.1	2.2	0.6	3.4	1.2
Other	4.9	8.1	2.2	10.1	1.5	0.0
Unknown	2.3	1.7	0.0	0.6	3.9	4.7
Preferred source of funds for business activities (%)						
Personal savings	34.0	31.8	42.9	59.5	12.8	32.6
Loan from bank	21.8	6.4	5.5	13.3	55.4	5.8
Business profits/ revenue	21.8	33.0	25.3	17.7	13.2	23.3
Chit funds	13.9	20.2	24.2	3.2	12.3	14.0
Loan from friends/ relative	2.0	4.1	0.0	0.6	1.0	4.7
Selling land/ property	1.1	1.7	2.2	0.0	1.5	0.0
Loan from money lenders	0.7	1.7	0.0	0.0	1.0	0.0
Other	0.1	0.0	0.0	0.6	0.0	0.0
Unknown	1.7	0.6	0.0	5.1	1.0	1.2

In all the states and thus overall, personal savings is considered to be the most preferred source of funds for starting businesses and also for other business activities. For all the states, loan from Chit Funds is not considered as preferable a source of funds for starting a business as loan from bank. The case is similar only for the states of Karnataka and Kerala for the second variable (preferred source of funds for business activities). Money lenders and loan from friends/ family are less preferred sources of funds for business activities. Selling land or property is also not considered favorable. These three options are, however, explored as possible sources of funds for starting a business.

Table 3-22 Supplier Relationship

Variable	Overall	By State				
		Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Long term supplier relationship (%)	26.3	29.5	18.7	42.4	12.3	31.4
Purchase on credit (%)						
Sometimes	50.1	40.5	70.3	40.5	63.2	34.9
Never	25.6	43.9	12.1	24.7	14.2	31.4
Always	14.3	15.6	15.4	29.1	4.9	5.8
Unknown	6.2	0.0	2.2	1.3	15.7	9.3

Overall, around 26% of chit members who are businessmen/women have a long term relationship with their suppliers. Around 40-90% of businesses engage in trade credit i.e. they purchase on credit from their suppliers sometimes or always.

3.7 Financial acumen and risk characteristics

Psychological traits (Range from -5 to 5)

1. *Achievement Motivation (AchM):* Need for success or attainment of excellence.
2. *Locus of Control (LC):* A person's perception of the source of his or her fate.
3. *Meta - Cognitive Activity (MC):* Higher order thinking that involves active control over the thinking processes involved in learning.
4. *Need for Dominance (ND):* Domination is the condition of having control or power over people or things.
5. *Passion for Work (PW):* Self motivation to work.
6. *Self- Efficacy (SE):* People's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives

Cognitive Reflection (IQ) and Risk Aversion

1. *Intelligence Quotient (IQ):* (Ranges from 0 to 7) Cognitive ability of an individual that influence judgment and decision-making.
2. *Risk Aversion (RA):* (Ranges from 0 to 10) Risk bearing capacity.

Table 3-23 Financial Acumen and Risk Characteristics

Variable	Overall	By State				
		Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Psychological traits						
AchM	1.9	2.4	1.7	1.7	1.6	1.8
LC	-0.5	-0.3	-1.5	-0.6	-1.3	0.6
MC	3.0	3.5	3.3	2.7	3.3	2.5
ND	2.6	2.8	3.2	2.0	3.0	2.4
PW	3.2	3.3	3.3	3.0	3.4	3.0
SE	3.2	3.6	3.4	2.8	3.5	3.0
Cognitive reflection and Risk aversion						
SumIQ	2.2	2.1	2.3	2.2	2.1	2.4
SumRA	7.0	7.7	7.2	6.3	6.0	7.4

There is not much variation between states in the financial acumen and risk characteristics of chit members. Achievement Motivation is similar across states ranging from 1.6 in Kerala to 2.4 in Tamil Nadu. Locus of Control is externally motivated in all states with the exception of Andhra Pradesh. This means most chit members are prone to think that their fate is determined by luck or chance. Meta-Cognitive activity is similar across states ranging from 2.5 in Andhra Pradesh to 3.5 in Tamil Nadu. Need for Dominance is highest in Delhi but lowest in Karnataka. This may be because in Delhi, Chit Funds have more of a business clientele than in other states, and entrepreneurs by their very nature are likely to be dominant. Passion for Work is also similar across states and ranges from 3.0 in Andhra Pradesh to 3.4 in Kerala. Self-Efficacy ranges from 2.8 in Karnataka to 3.6 in Tamil Nadu.

Sum IQ is the summation of the variables that determine Intelligence Quotient for chit members. It is similar across states ranging from 2.1 in Tamil Nadu to 2.4 in Andhra Pradesh. Sum RA is the summation of the variables that determine Risk Aversion of chit members. It is slightly more varied between states, ranging from 6.0 in Kerala to 7.7 in Tamil Nadu.

4. Analysis of the lowest income households

4.1 Definition of poverty

Poverty lines can be derived in two ways, using per capita household income level or per capita household consumption. Poverty line definitions in developing countries are often based on consumption expenditures. In developing countries, such as India, food and other basic necessities often make up a large share of the household budget. Since poverty is often associated with concerns about malnutrition and nutritional requirements, it makes more sense to derive poverty lines from these consumption measures than in the United States for example. Furthermore, consumption is often easier to measure whereas income data is not always available and even when available, is not always accurate. However, when only household income is available, it is common practice when calculating poverty rates to use the estimated share of household consumption. In addition, this is a more accurate measure to compare with poverty levels that rely on consumption data. For our study, we use the general assumption of household consumption being 70 % of reported household income. As a sensitivity analysis, we calculated the poverty levels using the standard World Bank definition including total reported household income and a standard $2/day level per household member.

In our study, consumption per day is defined as follows ~

Assumptions:

- Household consumption @ 70% of income
- 5 members per household (national average)

Income calculation:

- Method 1: Maximum of reported income range

- Method 2: Median of reported income range

- Method 3: 5 times Equivalent Monthly Installment (EMI)

Table 4-1 Poverty Rates among Chit Members

Variable	Median Income	Max Income	EMI
Monthly Income, (USD)			
Mean	$323	$380	$569
STD	$199	$217	$1,156
Min-Max	50-1000	100-1000	5-20000
Daily Average Per Head, (USD)	$1.51	$1.77	$2.66
Poverty Definition, (%)			
< 1.25 $ a day	53.2%	30.9%	47.9%
< 1.50 $ a day	53.2%	53.2%	50.7%
< 2.00 $ a day	73.7%	73.7%	63.8%
Sample	1409	1409	1421

Note: (1) Monthly Income in USD using the exchange rate @ 50 Rs./USD $. (2) Figures in table exclude housewives from sample.

A sensitivity analysis was done using the World Bank definition of $2 a day per person of total household income. The results yielded a very similar poverty rate as the one obtained by our method (52.5% using median income). Median income will be the indicator for poverty rates under $1.25 a day.

Table 4-2 State-wise Poverty Rates

Variable	Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Monthly Income, (USD)					
Mean	$242	$442	$459	$289	$291
STD	$169	$226	$249	$137	$156
Min-Max	50-1000	50-1000	50-1000	50-800	50-1000
Daily Average Per Head, (USD)	$1.13	$2.06	$2.14	$1.35	$1.36
Poverty Definition, (%)					
< 1.25 $ a day	73.9%	26.9%	28.8%	54.8%	59.8%
< 1.50 $ a day	73.9%	26.9%	28.8%	54.8%	59.8%
< 2.00 $ a day	87.4%	48.3%	48.8%	78.5%	83.3%
Sample	325	145	240	321	378

Note: (1) Monthly Income in USD using the exchange rate @ 50 Rs./USD $. (2) Figures in table exclude housewives from sample.

All the three variables in the table above show that the proportion of poor is highest in the state of Tamil Nadu and lowest in Delhi. Analyzing the data as per all the three definitions of poverty also gives similar results.

4.2 Poor vs. rest of population analysis among chit members

Table 4-3 Demographics < 1.25 $ a day vs. rest

Variable	< 1.25 $	≥ 1.25 $
Gender (%)		
Male	91.3	92.9
Female	8.3	6.8
Age (mean)	42.7	44.0
Occupation (%)		
Self-Employed	39.5	56.5
Salaried Employee (non-gov.)	28.4	21.6
Salaried Employee (gov.)	16.4	13.2
Retired	7.5	3.6
Others	8.3	5.2
Education (%)		
≤ 9 years of schooling	15.2	5.5
Attended High School	51.7	36.4
Graduate	25.2	36.1
Post Graduate	7.7	21.9

The table above showcases the occupational structure and the status of education among the poor and the rest of the chit population. There exists a marked difference in the percentage of people who are self employed. This category has a maximum proportion of people in both population groups but the poor are relatively less likely to be self employed as compared to the rest of the chit population. Also, the poor are more likely to be salaried employees compared to the rest. As far as the level of education is concerned, as expected, a higher percentage of people have the lowest level of education in case of the poor than the rest of the chit population. Again, the former group has a lower percentage of graduates and post graduates (33%) than the latter where the percentage is around 58%.

Table 4-4 Bank Participation < 1.25 $ a day vs. rest

Variable	Tamil Nadu		Delhi		Karnataka		Kerala		Andhra Pradesh	
	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $
Unbanked (%)	12.1	2.4	0.0	0.0	8.7	0.6	3.4	2.8	2.2	0.0
Types of account (%)										
Savings Account	95.7	96.4	92.3	91.4	93.7	85.8	95.3	94.3	97.3	96.1
Current Account	12.3	37.4	23.1	44.8	28.6	50.3	14.7	41.8	7.2	20.4
Deposit Account	2.8	12.1	5.1	12.4	0.0	5.3	10.0	20.6	13.1	13.2
Demat Account	1.4	8.4	5.1	8.6	3.2	12.4	1.2	2.1	0.5	1.3

Unbanked, for the purpose of this report, refers to the people who do not have a bank account. The reason may be lack of access or the complex process of documentation that people, especially poor and illiterate, tend to avoid. Such incidences are higher in proportion in case of the poor than the rest of the chit population and the variation in the proportion for the two is significantly high for the state of Tamil Nadu. In terms of bank utilization, a majority of people (almost more than 90%) in both the groups and across all the states hold a savings account. But it is clearly evident from the data for other banking facilities that a very few poor people use these facilities, their number being far less compared to the rest of the chit population. This is also a general trend in all the five states.

Table 4-5 **Borrowing Participation in Scheduled Banks < 1.25 $ a day vs. rest**

Variable	Tamil Nadu		Delhi		Karnataka		Kerala		Andhra Pradesh	
	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $
Has a bank loan (%)	20.8	34.1	5.1	22.6	23.2	52.6	37.5	50.3	27.9	43.4
Types of loans (%)										
Business loan	14.0	27.6	50.0	41.7	12.5	37.8	48.5	65.8	12.7	19.7
Personal loan	44.0	31.0	50.0	45.8	56.3	31.1	42.4	16.4	52.4	36.4
Vehicule loan	14.0	6.9	100.0	25.0	31.3	25.6	6.1	12.3	14.3	18.2
Jewel loan	4.0	0.0	0.0	0.0	0.0	1.1	4.6	11.0	1.6	3.0
Others	28.0	37.9	0.0	8.3	25.0	40.0	9.1	11.0	27.0	37.9

As can be deciphered from the table above, the poor are less likely to have a bank loan. This is true for all the five states. The behavior of the two population groups also varies in terms of the type of loan that they hold. A majority of the poor hold a personal loan in almost all the states with the exception of Delhi and Kerala. In Delhi, vehicle loans are more prevalent than in other states and in Kerala business loans are most common among the poor. In case of the rest of the chit population as well the percentage of loans in the personal loan category is higher but the difference between the amounts of personal and business loan is comparatively less.

Table 4-6 Chit Value & Duration < 1.25 $ a day vs. rest

State	Chit Value (US $)			Duration (months)			Equivalent Monthly Installement (EMI)		
	Mean	Std	Median	Mean	Std	Median	Mean	Std	Median
Andhra Pradesh									
< 1.25 $ a day	$4,144	$6,148	$2,000	45.3	7.4	50.0	$94	$166	$50
> 1.25 $ a day	$5,546	$5,353	$4,000	45.6	8.1	50.0	$119	$111	$80
Delhi									
< 1.25 $ a day	$2,792	$2,675	$2,000	27.9	5.6	30.0	$108	$120	$72
> 1.25 $ a day	$3,991	$3,060	$3,000	28.8	5.7	30.0	$151	$162	$100
Karnataka									
< 1.25 $ a day	$2,178	$1,823	$2,000	29.9	8.0	30.0	$71	$48	$50
> 1.25 $ a day	$6,214	$13,744	$2,000	30.4	8.4	25.0	$216	$498	$100
Kerala									
< 1.25 $ a day	$1,823	$2,720	$1,000	25.4	11.0	20.0	$78	$130	$42
> 1.25 $ a day	$3,099	$5,861	$2,000	24.1	12.1	20.0	$146	$293	$100
Tamil Nadu									
< 1.25 $ a day	$1,537	$1,462	$1,000	30.3	11.8	25.0	$50	$35	$40
> 1.25 $ a day	$2,167	$2,179	$2,000	31.1	11.0	25.0	$71	$64	$50

The poor usually participate in lower value chit schemes than the rest of the population. The highest variation in the average chit value can be found in Karnataka followed by Kerala. The duration however, does not vary between the poor and the rest of the population.

Table 4-7 Chit Fund Participation < 1.25 $ a day vs. rest

Variable	Tamil Nadu		Delhi		Karnataka		Kerala		Andhra Pradesh	
	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $
Regular Participant? (%)	52.5	62.4	51.3	57.6	66.7	78.4	65.3	78.6	88.9	93.4
Since When (%)										
5 years or less	52.9	36.5	23.1	29.3	52.2	39.2	64.2	46.2	53.5	40.8
For the last 6-10 years	25.8	32.9	43.6	37.7	24.6	26.3	26.1	36.6	35.0	38.2
For the last 11-20 years	10.4	16.5	23.1	19.8	13.0	28.7	7.4	13.1	8.4	18.4
More than 20 years	10.0	14.1	5.1	12.3	5.8	4.1	0.0	2.1	2.2	2.6
Fractions of friends/relatives participating in Chit schemes (%)										
Less than 20%	55.8	44.7	61.5	28.3	49.3	28.1	49.4	40.0	49.6	49.3
20%-40%	22.1	32.9	23.1	55.7	23.2	28.7	27.3	37.2	39.4	37.5
More than 40%	16.7	18.8	10.3	8.5	10.2	35.1	12.5	6.2	7.5	10.5
Don't Know/ Can't Say	4.2	2.4	5.1	5.7	17.4	7.0	4.0	4.8	3.1	2.6
Refused to Answer	1.3	1.2	0.0	1.9	0.0	1.2	6.8	11.7	0.4	0.0

It is evident from the table above that for all the states, a lower proportion of poor people are regular participants in Chit Funds as compared to the rest of the chit population. Also, the duration for which they have been participating is shorter. Delhi is an exception to this case where the duration of participation is longer for the poor. Considering the data related to the third variable, poor are less likely to know the people participating in the chits personally. They have lower fraction of friends/ relatives participating in the chit schemes in contrast to the rest of the chit population.

Table 4-8 Ex-ante and Ex-post reason for Chit Fund Participation < 1.25 $ a day vs. rest

Variable	Tamil Nadu		Delhi		Karnataka		Kerala		Andhra Pradesh	
	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $
Ex-ante: Reason for Participation (%)										
To Save	78.8	74.1	61.5	61.3	76.8	77.8	59.1	51.7	79.2	74.3
To invest working capital	27.5	35.3	10.3	34.9	8.7	15.2	22.7	22.1	19.0	22.4
To raise capital for business	18.3	29.4	15.4	38.7	14.5	23.4	15.3	19.3	7.5	13.2
To raise capital for personal c	35.4	37.7	71.8	69.8	14.5	14.0	14.2	13.1	15.0	19.7
To raise capital and save	4.6	9.4	61.5	50.0	5.8	3.5	14.2	32.4	15.0	16.5
Others	8.8	10.6	0.0	0.9	8.7	8.8	4.0	0.7	3.5	0.7
Refused to answer	8.8	10.6	0.0	0.9	8.7	8.8	2.3	2.8	0.9	2.0
Ex-post Reason to Bid (%)										
For a business investment.	31.3	47.1	33.3	50.9	23.2	39.2	29.0	35.9	17.7	24.3
For working capital.	7.1	16.5	20.5	28.3	4.4	10.5	26.7	18.6	15.0	13.2
To buy goods for the househo	37.9	29.4	28.2	17.9	20.3	18.1	23.3	5.5	19.9	21.7
For marriage.	17.5	21.2	15.4	8.5	13.0	8.8	15.3	1.4	14.6	12.5
For health care.	19.2	11.8	12.8	16.0	4.4	5.3	9.7	2.8	21.2	16.5
For emergency needs.	61.7	56.5	61.5	64.2	71.0	46.8	50.0	55.2	52.2	59.9
Others (please specify)	16.3	18.8	2.6	3.8	10.1	11.1	2.8	0.7	9.7	6.6
Refused to answer	0.0	0.0	0.0	0.9	0.0	1.2	6.8	9.7	3.5	4.0

From the table above, it is evident that savings stands as the primary reason for people to participate in Chit Funds. This is applicable to both the population groups and across all the states. The basic difference in the reasoning of the two population groups is that a lower proportion of the people in the poorer group participate for business purposes. All the people in all the states bid to satisfy their emergency needs. An exception to this is the state of Karnataka, where the proportion of ≥ $1.25 a day in this category is less than 50%. Apart from business investment, buying goods for household is also a main reason for the poor to bid in the chit auctions.

Table 4-9 Reasons for Saving < 1.25 $ a day vs. rest

Variable	Tamil Nadu		Delhi		Karnataka		Kerala		Andhra Pradesh	
	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $
Savings Goal (%)										
For marriage	23.8	17.7	28.2	17.9	11.6	9.9	18.8	4.8	18.6	19.1
For vehicle purchase	19.2	17.7	0.0	7.6	4.4	7.0	25.0	9.7	10.2	11.8
For house purchase	32.9	38.8	15.4	10.4	18.8	23.4	40.3	12.4	29.7	29.0
For jewel purchase	35.4	29.4	0.0	3.8	4.4	0.6	9.1	5.5	6.6	4.0
No particular goal.	14.2	7.1	61.5	50.0	55.1	45.0	18.8	43.5	32.7	27.0
Others (please specify)	32.5	44.7	18.0	32.1	18.8	27.5	18.8	22.8	21.7	25.7
Refused to answer	0.0	0.0	0.0	1.9	0.0	0.6	6.3	13.8	4.0	6.6

In general, people who save in Chit Funds save with no specific goal in view. Apart from this fact, the poor save majorly for marriage in all the states except for the state of Tamil Nadu where they save in order to purchase jewelry and Kerala where they save for house and vehicle purchase.

Table 4-10 Reasons for Participating in a Chit Fund rather than a Bank < 1.25 $ a day vs. rest

Variable	Tamil Nadu		Delhi		Karnataka		Kerala		Andhra Pradesh	
	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $
Reason for Participation in Chit Schemes than a Bank (%)										
Cannot get access to bank.	7.5	7.1	12.8	12.3	10.1	7.0	6.3	2.8	10.2	9.2
More familiar than bank.	30.8	23.5	2.6	11.3	13.0	21.1	32.4	40.0	19.0	19.1
Less documentation/collateral	42.9	24.7	20.5	43.4	23.2	26.3	78.4	90.3	29.2	22.4
Better returns.	58.8	58.8	82.1	57.6	42.0	44.4	28.4	35.9	63.3	60.5
Better interest rate	48.3	60.0	51.3	54.7	39.1	43.3	22.2	33.8	52.7	57.9
Chit funds collect money at door	33.8	30.6	48.7	46.2	26.1	7.6	29.6	16.6	12.4	15.8
Others (please specify)	7.1	11.8	0.0	2.8	7.3	14.0	7.4	0.7	3.5	2.6
Refused to answer	0.0	0.0	0.0	0.0	0.0	0.6	1.1	2.8	1.8	3.3

As can be seen from the table above, the most common reason for participating in chit schemes rather than a bank is that the former gives better returns than the latter. All the states follow a

similar trend except for the state of Kerala where documentation and collateral requirement restricts the poor population from availing the facilities of a bank. There is no particular difference between population groups in the overall trend except state-wise differences.

Table 4-11 Borrowing for Chit Payments < 1.25 $ a day vs. rest

Variable	Tamil Nadu		Delhi		Karnataka		Kerala		Andhra Pradesh	
	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $
Had to Borrow Money to cover Chit Payments (%)	16.3	14.1	5.1	3.8	21.7	11.1	18.2	11.7	21.7	9.9
From Whom (%)										
Family/ friends/ colleagues.	76.9	91.7	50.0	75.0	100.0	89.5	90.6	82.4	89.8	100.0
Money lender.	20.5	0.0	0.0	0.0	13.3	0.0	9.4	17.7	20.4	20.0
Business partners	0.0	8.3	0.0	25.0	0.0	5.3	3.1	0.0	12.2	0.0
Other chit members	0.0	0.0	50.0	0.0	0.0	0.0	9.4	0.0	2.0	13.3
Other	10.3	8.3	0.0	0.0	0.0	10.5	3.1	0.0	2.0	0.0

For all the states, people who had to borrow money to cover chit payments majorly belong to the category of the poor. The most preferable source of borrowing is family, friends and colleagues. Money lenders are another good source of borrowing for the poor especially in case of Tamil Nadu.

Table 4-12 Illiquidity in Chit Funds < 1.25 $ a day vs. rest

Variable	Tamil Nadu		Delhi		Karnataka		Kerala		Andhra Pradesh	
	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $
Illiquidity in Chit Funds (%)	38.8	34.1	2.6	12.3	30.4	40.9	24.4	24.1	41.2	48.7
Options when faced with Illiquidity (%)										
Borrow from Family/Friends/Colleagues	66.7	65.5	0.0	76.9	47.6	50.0	51.2	20.0	69.9	86.5
Borrow from Money Lenders	22.6	3.5	0.0	15.4	9.5	8.6	27.9	8.6	23.7	17.6
Borrow from Business Partner	3.2	3.5	0.0	7.7	4.8	2.9	7.0	20.0	6.5	6.8
Borrow from other Chit Fund	0.0	3.5	0.0	0.0	4.8	0.0	2.3	11.4	6.5	8.1
Wait till next Chit Auction	1.1	3.5	0.0	0.0	0.0	0.0	2.3	5.7	3.2	2.7
Had to let go of a Good Business Opportunity	23.7	13.8	100.0	30.8	38.1	44.3	32.6	31.4	15.1	18.9
Others	1.1	0.0	0.0	7.7	0.0	0.0	0.0	5.7	1.1	0.0
Refused to Answer	11.8	27.6	0.0	7.7	28.6	27.1	0.0	2.9	0.0	1.4

There is no clear trend of the poor facing illiquidity problems in Chit Funds as can be seen from the table above, but this could be explained by the fact that the rest of the population may have more opportunities to address and needs to be satisfied. People in both population groups prefer banks to family, friends or colleagues when faced with illiquidity problem. Most of the people in all the states had to let go of a good business opportunity in such a situation. Borrowing from money lenders is another preferable option available to the poor but the state of Delhi is an exception to this case.

Table 4-13 Bidding Behavior < 1.25 $ a day vs. rest

Variable	Tamil Nadu		Delhi		Karnataka		Kerala		Andhra Pradesh	
	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $
Timing of Bid (%)										
Always Bid Early	17.5	12.9	7.7	17.0	13.0	8.2	11.4	17.2	35.0	36.8
Always Bid Late	42.9	37.7	33.3	24.5	30.4	22.2	3.4	4.8	8.0	10.5
Bid when need the money	36.7	48.2	51.3	51.9	50.7	64.3	75.6	68.3	53.1	48.0
Bid when no one else is bidding	2.5	1.2	7.7	5.7	5.8	3.5	2.8	4.8	2.7	4.0
Others	0.4	0.0	0.0	0.9	0.0	1.2	4.6	1.4	0.4	0.0

People, irrespective of their economic status, generally bid when they need money. Bidding during the later part of the scheme is also observed to be a common behavior. Few people bid when nobody else is bidding. This is true for the poor as well which indicates that they are also aware of the auction mechanism and other functionalities of the scheme.

Table 4-14 Mode of Participation < 1.25 $ a day vs. rest

Variable	Tamil Nadu		Delhi		Karnataka		Kerala		Andhra Pradesh	
	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $
Mode of Participation (%)										
Participate personally	81.3	70.6	89.7	73.6	84.1	66.7	63.6	22.8	63.3	61.8
Through an agent	7.5	5.9	2.6	0.9	5.8	10.5	2.8	4.8	12.4	15.8
Both personally and through agent	0.8	4.7	0.0	2.8	1.5	7.0	1.7	13.8	23.5	22.4
Neither (Company is authorized to bid)	10.0	17.7	7.7	22.6	5.8	13.5	21.6	54.5	0.0	0.0
Others	0.0	0.0	0.0	0.0	2.9	2.3	3.4	0.7	0.0	0.0
Refused to Answer	0.0	0.0	0.0	0.0	0.0	0.0	6.8	3.5	0.0	0.0

Overall, both the population groups prefer to participate personally in a chit auction. Proportion of the poor participating personally, however, is relatively more as compared to the rest of the population.

Table 4-15 Business Details < 1.25 $ a day vs. rest

Variable	Tamil Nadu		Delhi		Karnataka		Kerala		Andhra Pradesh	
	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $
Number of Businesses Owned and Managed in total (%)										
One	91.4	85.7	94.1	89.6	86.2	81.4	95.4	84.9	74.5	62.2
Two	7.8	10.2	0.0	7.5	10.3	11.5	2.3	4.7	4.3	13.5
Three	0.9	4.1	5.9	0.0	3.5	0.9	0.0	1.9	0.0	2.7
More than three	0.0	0.0	0.0	0.0	0.0	4.4	0.0	0.9	0.0	5.4
Combined Monthly Revenue (%)										
<=10000 Rs.	29.0	5.1	37.5	1.7	30.8	0.0	50.0	6.3	29.0	0.0
10 001-20 000 Rs.	19.0	25.6	62.5	28.8	15.4	14.5	34.6	53.2	29.0	44.8
20 001-50 000 Rs.	11.0	30.8	0.0	61.0	7.7	21.0	6.4	30.4	7.9	10.3
> 50 000 Rs.	41.0	38.5	0.0	8.5	46.2	64.5	9.0	10.1	34.2	44.8
Refused to answer	13.8	20.4	5.9	11.9	55.2	45.1	10.3	25.5	19.2	21.6
Number of Employees (%)										
No employee	19.8	2.2	7.1	1.7	19.1	2.9	13.3	7.0	7.0	2.9
1 employee	20.7	6.5	14.3	8.5	9.5	8.8	36.1	15.0	18.6	5.9
2 employees	24.3	19.6	14.3	13.6	9.5	10.8	30.1	32.0	30.2	14.7
3 employees	9.0	4.4	14.3	10.2	9.5	6.9	12.1	10.0	7.0	14.7
4 employees	5.4	6.5	14.3	17.0	4.8	7.8	2.4	7.0	7.0	5.9
5 employees	9.0	17.4	14.3	15.3	4.8	7.8	0.0	14.0	0.0	11.8
> 5 employees	11.7	43.5	21.4	33.9	42.9	54.9	6.0	15.0	30.2	44.1
Refused to answer	4.3	6.1	17.7	11.9	27.6	9.7	4.6	5.7	8.5	8.1

Most of the people, as can be seen from the table above, own and manage only one business but the rest of the chit population have a higher incidence of owning two or more businesses when compared to the poor. The proportion of people owning two businesses is similar for both the population groups for the state of Karnataka. Analyzing the data for the other two variables in the table, we find that the combined monthly revenue is lower for the businesses owned by the poor when compared to the rest of the chit population and also they tend to have lesser number of employees.

Table 4-16 Trade Credit & Customer Type < 1.25 $ a day vs. rest

Variable	Tamil Nadu		Delhi		Karnataka		Kerala		Andhra Pradesh	
	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $	< 1.25 $	≥ 1.25 $
Purchase on Credit (%)										
Always	12.1	22.5	5.9	11.9	10.3	35.4	5.8	4.7	4.3	8.1
Sometimes	38.8	46.9	64.7	74.6	48.3	37.2	60.9	67.9	40.4	24.3
Never	49.1	30.6	17.7	10.5	37.9	22.1	19.5	8.5	27.7	37.8
Refused to Answer	0.0	0.0	11.8	1.5	0.0	0.9	12.6	17.0	6.4	13.5
Customers for Largest Business (%)										
Other retailers.	50.0	61.2	64.7	80.6	44.8	38.1	46.0	32.1	38.3	37.8
Final customers (non farmers)	76.7	87.8	64.7	53.7	75.9	60.2	66.7	65.1	25.5	29.7
Final customers (farmers).	65.5	46.9	41.2	32.8	62.1	39.8	60.9	64.2	17.0	13.5
Other manufacturers.	17.2	20.4	5.9	4.5	34.5	12.4	9.2	14.2	12.8	16.2
Others (please specify)	1.7	4.1	0.0	0.0	3.5	30.1	20.7	10.4	4.3	13.5
Refused to answer.	0.0	0.0	11.8	3.0	0.0	0.0	2.3	9.4	6.4	10.8
Don't know/ can't say.	0.0	0.0	0.0	0.0	0.0	0.0	11.5	3.8	10.6	8.1

As evident from the table above, except for the state of Andhra Pradesh, poor people in all the states are less likely to purchase on credit than the rest of the chit population. The poor, as expected, have a higher proportion of farmers as their customers than the rest of the chit population. This trend is reversed in the case of Kerala. A good amount of people also have non-farmers as their final customers.

Table 4-17 Financial Acumen and Risk Characteristics < 1.25 $ a day vs. rest

Variable	Psychological traits						Cognitive reflection & Risk aversion	
	AchM	LC	MC	ND	PW	SE	SumIQ	SumRA
Overall								
> 1.25 $ a day	1.9	-0.6 ***	3.1 *	2.8 ***	3.3 *	3.3	2.3 ***	6.7 ***
< 1.25 $ a day	1.9	-0.3	3.0	2.5	3.2	3.3	2.1	7.1
Tamil Nadu								
> 1.25 $ a day	2.1 **	-0.3	3.4	3.0	3.3	3.5	2.3 *	7.4
< 1.25 $ a day	2.6	-0.1	3.5	2.7	3.4	3.6	2.0	7.7
Delhi								
> 1.25 $ a day	1.8	-1.5	3.5	3.3	3.5	3.5	2.3	7.3
< 1.25 $ a day	1.9	-1.3	3.3	3.3	3.2	3.3	2.4	7.2
Karnataka								
> 1.25 $ a day	1.7	-0.4 ***	2.5 ***	2.0	2.9 **	2.6 ***	2.4 ***	6.1 **
< 1.25 $ a day	1.9	-1.0	3.2	2.1	3.3	3.2	1.7	6.7
Kerala								
> 1.25 $ a day	1.6	-1.5 ***	3.5 **	3.2 ***	3.7 ***	3.8 **	2.0	5.7
< 1.25 $ a day	1.6	-1.1	3.1	2.8	3.2	3.4	1.9	5.9
Andhra Pradesh								
> 1.25 $ a day	2.6 ***	0.6	3.0 ***	3.0 ***	3.3 ***	3.4 ***	2.5	7.5
< 1.25 $ a day	1.5	0.5	2.2	2.1	2.8	2.8	2.4	7.3

Overall, there is not much significant variation between the poor and the rest of the chit population on financial acumen. However, the poor seem to be significantly more risk averse and lower in cognitive ability than the rest of the chit population. In Tamil Nadu and Delhi, there is not much variation between the two population groups. In Karnataka, the poor significantly vary from the rest of the population in terms of being more dependent on 'luck' or 'chance', having higher meta-cognitive activity and self-efficacy and having lower cognitive ability. In Kerala, however, the poor are less dependent on luck when compared to the rest of the population. They also have a lesser need for dominance and passion for work. In Andhra Pradesh, the variations between the poor and the rest of the population are more significant. The poor have lesser achievement motivation, meta-cognitive activity, need for dominance, passion for work and self-efficacy than the rest of the population.

5. Cost of Chit Fund Financing - Interest rate Comparisons

5.1   Background

Chit Fund schemes bring together a heterogeneous group of people to exploit gains from trade. Schemes can vary in chit value and duration and different combinations of them can yield different interest rates for loans and savings. Members, in general, do not observe *ex-ante* the pay-off of participating in a particular group as it typically depends on the choices made by other participants. Once members join a scheme they are locked in for the entire duration, however, they are free to choose *ex-ante* the chit value and the duration. In a given scheme, each participant contributes a fixed amount each month to the "pot". Typically the "pot" of the first or fifth month is kept by the chit company for administration purposes while the "pot" for the remaining months is auctioned off to the highest bidder. The interest rates for loans and savings can vary from chit value and duration of the scheme, and month. In general, members in desperate need of funds bid in the early stage of the scheme, while members who wish to save bid towards the end of the scheme.

5.2   Data collection methodology and description

To understand the interest rates prevailing in the industry currently and over time, we analyzed the bidding data received from chit fund companies. We identified around 5 to 10 chit fund companies in each of the five states including Tamil Nadu, Andhra Pradesh, Kerala, Karnataka and Delhi. We then collected a sample of bidding data of closed groups[8]. The data includes the following information – auction date, installment amount / contribution, dividend, bid payable / loan amount and the bid amount / discount. Table 5-1 describes the distribution of the schemes by duration and most popular chit value. The duration varies from 10 months to 60 months,

---

[8] Closed group means a chit scheme whose duration has been completed.

while the chit value varies from Rs. 10,000 ($200) to Rs. 150,000 ($3000). The most common scheme is the chit value of Rs. 50,000 ($1000) for the duration of 25 months.

Table 5-1 Closed bidding scheme collected by duration and chit value

Duration (months)	Number of Chit Schemes	Chit Value Most popular scheme (Rupees)	Min Chit Value (Rupees)	Max Chit Value (Rupees)
10	2	100000	100000	100000
15	3	90000	90000	90000
20	163	10000	10000	600000
25	770	50000	40000	1500000
30	241	300000	15000	900000
40	286	100000	10000	1000000
50	73	50000	25000	500000
60	5	60000/150000	60000	300000
Total	1543			

The table below describes the sample of closed schemes by state and year of first auction start date. Most of the sample comprises of schemes that started between 1999 and 2006. Furthermore, a large portion of the schemes collected are from Chit Funds in Tamil Nadu and Delhi.

Table 5-2 Number of closed bidding schemes by year and state

| Year | Number of schemes | | | | | Year Total |
	Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh	
1993	1	-	-	-	-	1
1994	2	-	1	-	-	3
1995	10	-	8	-	-	18
1996	30	-	14	-	-	44
1997	34	-	18	-	-	52
1998	36	1	4	-	-	41
1999	41	4	7	-	1	53
2000	60	9	2	-	23	94
2001	70	17	10	-	45	142
2002	61	24	27	11	58	181
2003	53	32	28	-	31	144
2004	61	38	45	-	4	148
2005	73	25	40	13	6	157
2006	15	5	8	-	1	29
2007	-	-	-	7	-	7
Missing	70	357	2	-	-	429
Total	617	512	214	31	169	**1543**

We use this bidding data to calculate the Internal Rate of Return (IRR) for each month of a given scheme. This allows us to derive the interest rate and compare it across other states and years. The IRR methodology is described in the section below.

5.3 Internal rate of return (IRR) calculation

The IRR is the discount rate that generates a zero net present value for a series of future cash flows. Thus, the IRR represents the rate of return that makes the sum of present value of future cash flows and the final market value of an investment equal to its current market value. The interest rate for each chit scheme was computed by resolving the following simple model:

Loan Interest rate: Simple Model

P = C-I (Principal component of contribution)
I = X1*R (Interest component of contribution)
X2 = X1-P,
X3 = X2-P,
……………
Xn = X(n-1)-P

Model: Solve for R such that Xn ~ 0

Where, "X1" is the loan amount, "R" the effective interest rate, "C" the contribution per month. This equation is resolved for "*R*" using an iterative process. We estimate the interest rate using two methods. The first method is to estimate the IRR for each individual chit scheme. We then average the interest rates for each chit scheme of same value and duration. In the second method, used as a sensitivity analysis, we compute the mean monthly contribution for schemes of same chit value and duration and we then estimate the IRR. We calculate the latter on the most popular chit scheme (Chit Value 50,000 Rs.| 25months).

5.4 Trends in interest rates

As mentioned previously, one of the salient features of Chit Funds is that members pay non-uniform rates of interest for their borrowings and receive non-uniform rates of return on their investments. Furthermore, these interest rates and rate of returns are not determined *ex-ante*, but rather a function of numerous factors for which chit members seem aware of. Our survey results indicate that chit members actually have a sense of the interest rate they would receive or at least a relative comparison option that guides them whether it is optimal to bid or not in a given month. Overall, 47.5 % consider the interest rate of the outside option to determine the maximum amount for which they are willing to bid, while another 15.2% consider the rate of return for the intended project, and 27.2% consider both.

One of the important factors influencing the bidding behavior is the discount offered by different members at the auctions. The table below gives an example of the average monthly bidding behavior versus the member's contribution in a 25 months chit scheme with a Rs. 50,000 chit value. As can be observed, in the first five months, bidding amount is usually high with members most urgently in need of funds or with profitable investment projects bidding. Afterwards, bid amount tends to decrease overtime. Inversely, members' contribution will increase overtime as the dividend amount decreases.

Table 5-3 Example of Monthly Bid Amount and Contribution
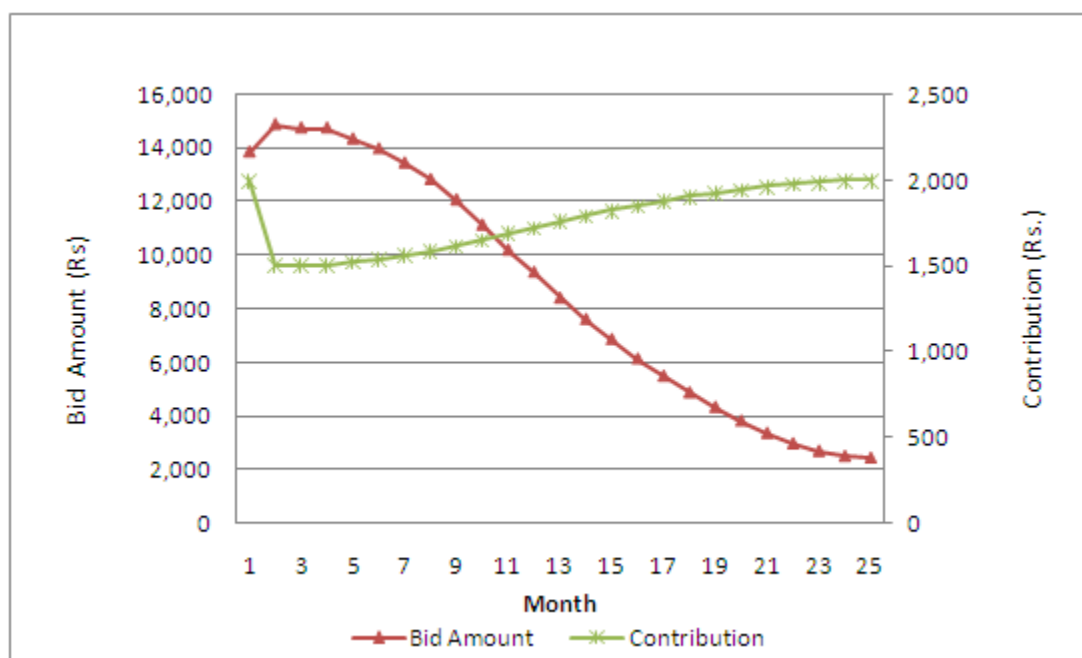
The figure below demonstrates the average loan interest rates for different chit values of 25 months duration, the most popular duration for chit schemes. As can be observed, interest rates range from zero (for savers) to approximately 3.5% depending on the chit value and month. The interest rates peak at about 1/3rd to 1/4th of the chit duration. Chit values of Rs. 25,000 and Rs. 50,000 have very similar interest trends, while chit schemes of higher value tend to have higher interest rates before the peak compared to lower chit values. After the peak, interest rates for the higher value chits become relatively lower immediately after the peak for some period. The

lower value chit of Rs. 10,000 has a more distinct trend in interest rates. For about a 1/3rd of the tenure, interest rates are lower compared to other schemes. Afterwards, interest rates remain relatively much higher and reach at a peak much later. Similar interest rate trends are observed in chit schemes of different values and duration, results for which are presented in Appendix F.

Figure 5-1 Average Loan Interest Rate for Chit Schemes of 25 Months Duration[9]
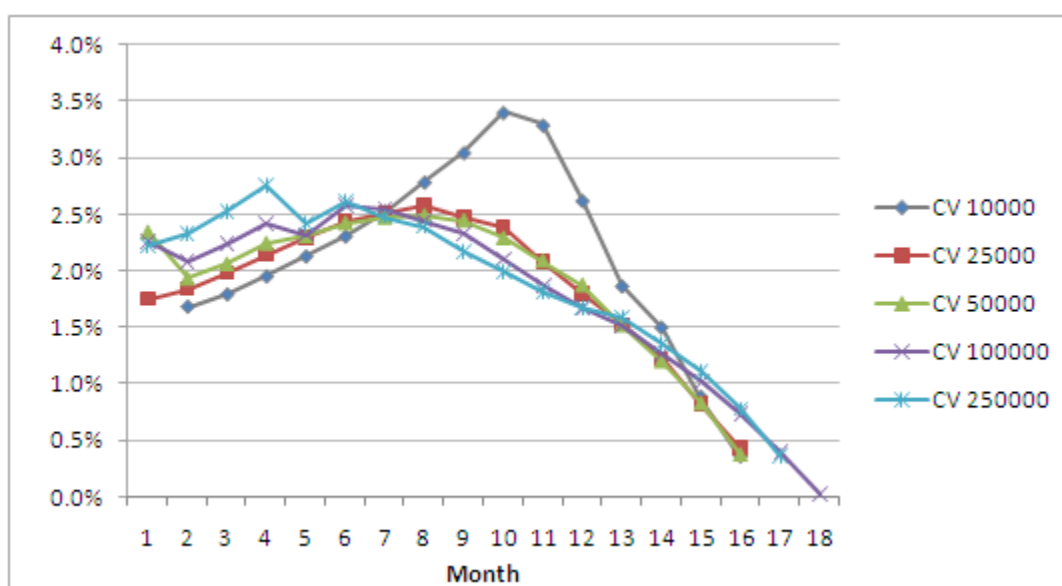
When looking at interest rates by state, the figure below illustrates the interest rates for the overall most popular scheme. There are notable differences between states with the biggest variations occurring in the state of Kerala.

---

[9] Sample sizes are as follows: CV 10,000 (40 obs.), CV 25,000 (128 obs.), CV 50,000 (264 obs.), CV 100,000 (157 obs.), CV 250,000 (46 obs.)

Figure 5-2 Average Loan Interest Rate for Chit Schemes 50,000 Rupees|25 Months by State[10]
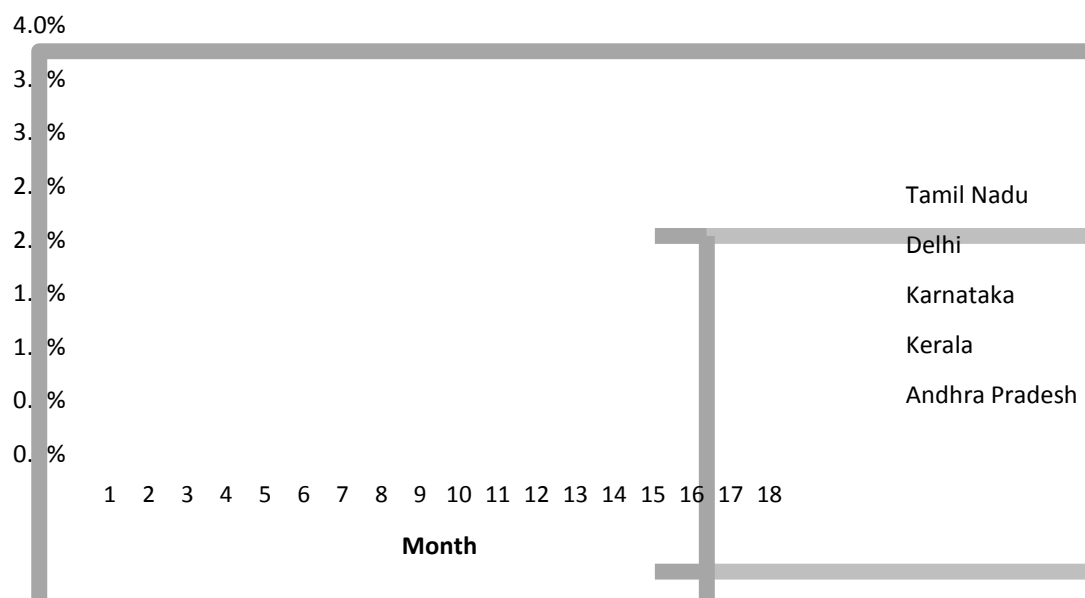
There is a general trend of decreasing interest rates between 1999 and 2006 as illustrated in Figure 5-3 below.

---

[10] Sample sizes are as follows: Tamil Nadu (193 obs.), Delhi (35 obs.), Karnataka (32 obs.), Kerala (1 obs.), Andhra Pradesh (3obs.)

Chit Funds as an Innovative Access to Finance for Low-income Households

Figure 5-3 Average Loan Interest Rate for Chit Schemes 50,000 Rupees|25 Months by Year
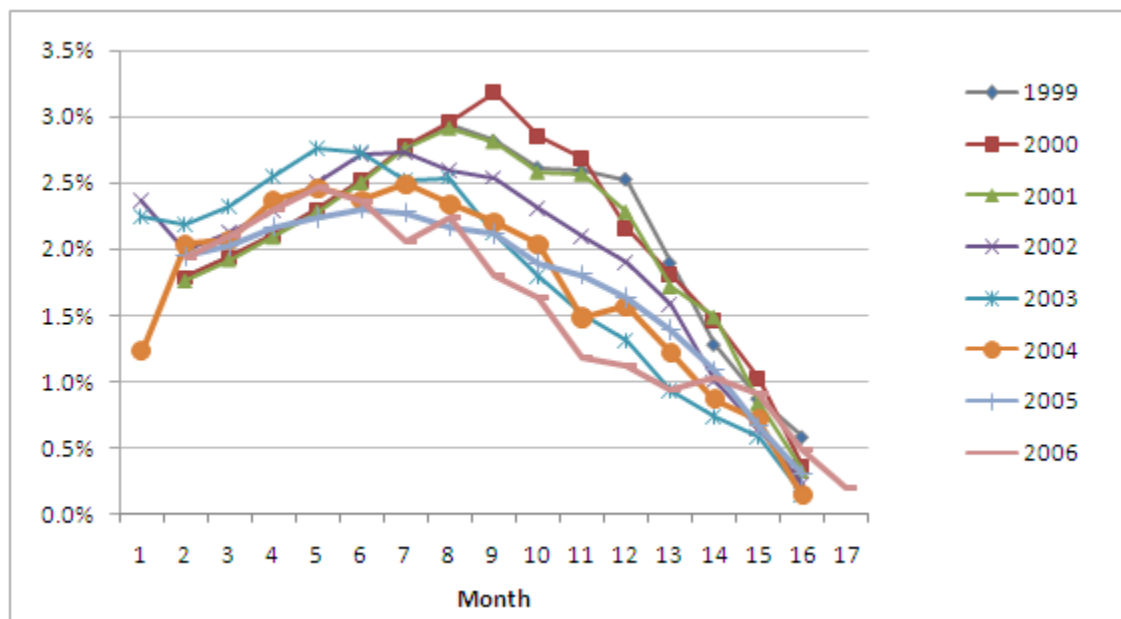
5.5 Comparison with outside option

The most popular outside options to Chit Fund members, besides family and friends are moneylenders, banks, and unregistered Chit Funds. These options vary in the terms and conditions offered. The table below highlights the most salient features of each option.

Table 5-4 Outside Options - Interest Rates for Loans[11]

Parameter	Registered Chit Funds	Moneylenders	Banks/Formal Institutions	Unregistered Chit Funds
Collateral Requirements	Depends on the chit fund manager and credit history of the member They usually accept personal guarantees Other types of collaterals accepted are – post dated checks, insurance policy, house/land property papers etc.	Depends upon the type of moneylender. Loans with or without collateral are available. Variety of items considered as collateral Legal ownership transferred /not transferred depending borrower closeness.	Depends upon the type of loan asked for. Most of the banks do ask for some kind of collateral – Insurance policy, House/property papers etc. Interest rate applicable varies with the amount/quality of the collateral provided	Usually no collateral required since member and chit fund manager know each other personally. Chit fund owner sometimes asks for bond paper worth the value of one chit installment which will be returned to the member after he wins the bid.
Interest Rates	Interest rates vary according to the chit value and duration They also vary according to the month of auction Rates range from 0.5% to 3.5% per month	Rates ranging from as low as 1% per month to as high as 20% per month are observed.	There are minor variations based on the type of loan and collateral provided and profile of the borrower. PLR: 12.75% - 13.25% per yr	The average interest rate varies from 1% to 2% per month.

---

[11] Money Lenders Source: Business logistics of informal moneylender, 2008 (based on primary data collected during mid-2007), Banks Source :Based on published reports by RBI for the 2007-08,Unregistered chit funds and registered chit funds, based on own data collection and interviews with unregistered chit managers.

6. Unregistered Chit Fund Industry

6.1 Background

Increasing our knowledge about the magnitude of the unregistered chit industry and their member profile is an essential component in encouraging the poor to participate in registered Chit Funds. It is well known that informal finance markets, such as unregistered chits, are a significant component of the financial system in developing countries. Furthermore, they play a decisive role in channeling credit to poor borrowers. Despite this, although more easily accessible relative to formal sources, informal finance sources have well known caveats such as, exorbitant interests rates for loans and lack of security.

However, being an informal source of finance, information about the scope and size of the unregistered Chit Funds is scarce. The activities of the unregistered chits, in addition of being of various natures ranging from housewives' monthly kitty parties to daily business group chits, have no permanent structure or offices.

We took a top-down approach and bottom-up approach to obtain "best guess estimates" as well as to understand the functioning of unregistered Chit Funds.

6.2 Top – down approach

The objective of the top-down approach was to obtain a "best guess estimate" of the magnitude of the unregistered Chit Fund industry.

A questionnaire was administered to volunteering registered chit managers during the Annual General Meeting of the All India Association of Chit Funds in Bangalore (Karnataka) on

September 20th 2008. The objective was to understand their perspective about their unregistered counterparts in their respective states.

We also conducted in-depth interviews with prominent chit managers in Delhi and Chennai (Tamil Nadu) to gauge the size of the unregistered chit industry in relation to the population and market size of these areas.

Data collected:

- Chit Fund General Meeting – Survey of registered Chit Fund managers
- Market size and residential population estimates in Delhi and Chennai (Tamil Nadu) and corresponding chit participation details
- Survey of unregistered chit managers

Potential data collection problems:

- Discrepancy between survey results and chit manager interviews: potential self-serving bias of chit managers, since they want to pretend the industry is bigger
- Finding a representative sample population

6.3 Bottom-up approach

The objective of the bottom-up approach was to understand the functioning of the unregistered chit schemes and some of the underlying participant behavior.

We collected data from several sources. Qualitative interviews were conducted with unregistered (current and previous) Chit Fund managers and members. Sample selection was not random as it was dependant on the availability, willingness and personal introduction to unregistered chit managers or members, thus a snowballing technique was used to obtain the desired representative sample for our study. The interview guides are available in Appendix G. This

small scale data collection effort on unregistered chit schemes was carried out in Delhi and Erode (Tamil Nadu) among 15 and 23 respondents respectively. Furthermore, it also allowed us to derive some estimates on the type of chit value and duration of unregistered chit schemes.

Data collected:

– Survey of registered chit members about unregistered chit participation
– Survey of unregistered chit managers/ members

Potential data collection problems:

– Finding a representative sample population

6.4 Estimate of unregistered Chit Fund industry

According to our survey of registered chit managers at the General Meeting, the number of unregistered Chit Funds is 15 times that of registered Chit Funds. The state-wise breakup is as follows:-

Table 6-1 Ratio Unregistered/Registered

State	Ratio (Unregistered /Registered)
Andhra Pradesh	5.3
Karnataka	33.4
Kerala	0.7
Tamil Nadu	22.4
State Average	15.5

Note:

1. We recorded the responses of 45 such Chit Fund company managers (out of approximately 100)
2. Kerala estimate is based on one observation

The other method that we adopted, which is to arrive at the size of unregistered chit industry in relation to markets and population, provided different results. Using a back of the envelope technique to obtain "best guess estimates", we initially proceeded to estimate the percentage of households per ward participating in unregistered Chit Funds in two urban areas, Delhi and Chennai, in order to understand variations, if any, between the north and the south of India. With the results we were able to generally understand the scope of the unregistered Chit Fund industry and to compare these with the registered Chit Fund industry[12], keeping in mind that this approach is not methodically plain.

To measure the size of unregistered chit industry in urban areas we have applied a multiple-stage data collection method. First, we have identified areas in both Delhi and Chennai and categorized each of these residential and commercial areas as low, medium or high income areas. Next, we have gathered information on household size for residential areas, in order to define the percentage of households participating in unregistered chit schemes, as well as the number of shops for commercial areas to define the market chit value. Data on residential and commercial areas were collected from multiple local sources and were merged into matrices. As it was not feasible to collect data for every area in Delhi or Chennai we have consolidated residential and commercial areas into wards; 107 for Delhi and 18 for Chennai so as to reduce data irregularity. Estimates are available by ward in Appendix H.

6.4.1   Delhi

Data on Delhi market size was collected from a prominent Chit Fund company, while data on household size per ward was taken from the Delhi Government Department[13]. With these two data sets we established one matrix for market based chit value and one matrix for household participation in unregistered Chit Funds. Both matrices have been used to calculate the unregistered Chit Fund value as compared to the value of registered Chit Funds.

---

[12] Registered Chit Fund size of Delhi and Chennai are based on 2006 figures
[13] Delhi Census 2001: (http://delhigovt.nic.in/dept/economic/populationdetail.asp#Ward%20wise)

Table 6-2 Delhi: Chit value based on type of market and value of goods

		Type of market	
		Retail	**Wholesale**
Value of goods	**High**	2000 $	200000 $
	Med	2000 $	50000 $
	Low	500 $	20000 $

Table 6-3 Delhi: Chit value and % of households participating in chits based on income level

Income Level	Chit Value	% of Households Participating in Unregistered Chit Funds
High	1500 $	5%
Med	500 $	30%
Low	100 $	50%

We calculated that the overall unregistered chit value for markets comes to around Rs. 170 billion ($3.4 billion USD). For households it comes to a total of Rs. 11.5 billion ($230 million USD). The unregistered Chit Fund industry in Delhi is around 67 times as large as the registered Chit Fund industry: Rs. 181 billion ($3.6 billion USD) as compared to Rs. 2.7 billion ($54.2 million USD).

6.4.2   Tamil Nadu

Urban area: Chennai

To calculate the market based chit value and the percentage of household participation in unregistered Chit Funds in Chennai, we applied a similar approach as for Delhi. Surely, since

Chennai counts for only one third of the population of Delhi we did not expect that the unregistered Chit Fund industry would provide us similar results as for Delhi.

Table 6-4 Chennai: Chit value based on type of market and value of goods

	Type of market	
	Retail	**Wholesale**
High	2000 $	100000 $
Med	2000 $	30000 $
Low	1000 $	15000 $

Table 6-5 Chennai: Chit value and % of households participating in chits based on income level

Income Level	Chit Value	% of Households Participating in Unregistered Chit Funds
High	2000 $	5%
Med	1000 $	30%
Low	200 $	5%

The total market based chit value in Chennai comes to Rs. 49.8 billion ($1 billion USD). The total unregistered chit value based on household population comes to Rs. 3.6 billion ($72 million USD). So a total of Rs. 53.4 billion ($1.07 billion USD) is circulating within the unregistered Chit Fund industry against the Rs. 17 billion ($338 million USD) within the registered Chit Fund industry in Chennai, which means the size of the unregistered Chit Fund industry would be 3.1 times larger.

6.5 Functioning of unregistered chit schemes

Results from the interviews with chit managers in both Delhi and Erode reveal that the primary advantage of unregistered schemes compared to registered schemes is that the members do not have to comply with formalities for participating in the scheme. Chit managers do sometimes request for documentation from new members to enroll them to the scheme or for references from old members. However, in most cases (95%) this is not required, because members are well known to the manager and often the principle of trust prevails over formal obligations. A minority of the managers charge commission to their members. If no commission is charged, as in 60% of the cases, managers claim the first or second 'pot' as substitute income. Contrary to registered chit schemes where the rules are laid down by the law, unregistered chit managers decide on their own bidding parameters. This usually involves only a fixed minimum bid amount (either a fixed percentage or amount) while in 95% of the cases there is no cap on the maximum bidding amount. This might seem to involve risk of over bidding but there is in fact a tacit understanding between manager and members that bidding practices should stay within acceptable limits.

Interviews taken in Delhi show us that managers are using money from unregistered chit schemes mostly for businesses and personal purposes. Members for these schemes are selected from the manager's network of friends and business relations, therefore minimizing the need for formal enrollment procedures or securities from 'pot winners'. The average duration of the schemes is 20 months and the chit value ranges from Rs. 50,000 ($1000) to Rs. 400,000 ($8000).

Interviews taken in Erode show that 80% of chit managers are farmers with an average property of 7.5 acres of farm land (coconut farming). Contrary to unregistered chit managers in Delhi, these schemes do not primarily serve business purposes but are a means to cover agricultural expenses (32%) and personal expenses (46%) such as house construction and marriage. Members selected by the managers are farmers as well; often relatives and friends of the chit manager. The modal chit value is Rs. 50,000 ($1000) and does not relate to the size of farm land

of the manager or to the crop being produced. Since in most cases chit managers *and* members are farmers, auctions cannot be performed on a monthly basis due to irregular seasonal income. Instead most of these schemes operate on a bi-annual or annual basis, causing the scheme to prolong the initial duration up to twelve times. Only 10% of the managers provide side-loans especially because there is no demand for side lending. In cases where side lending is provided, managers charge an interest up to 2% per month.

6.6 Unregistered chit member profile

Similar to interviews taken among chit managers, chit members in Delhi and Erode were asked about their experience in participating in unregistered chit schemes. Generally, unregistered chit schemes are seen as an excellent source to put in untaxed money (money that is not shown in the tax returns), especially since there are hardly any requirements for sureties or collateral.

No less than 90% of unregistered chit members interviewed in Delhi are business people; usually in similar businesses as the chit manager. Most of the interviewed chit members are participating in a 20 month scheme with a chit value varying between Rs. 25,000 ($500) and Rs. 50,000 ($1000). Almost half of the members indicate that the advantage of participating in unregistered chit schemes is that the money can be easily accessed when needed with none or few formalities. Although unregistered chits are often preferred to other saving options (e.g. banks) they are not regarded entirely safe; as much as 75% of the respondents in Delhi have encountered financial losses due to misconduct by the manager or fellow members.

All chit members interviewed in Erode also have experience in managing unregistered Chit Funds in the past (35%) or at present (65%). Chit Funds are a very common phenomenon in this area; it is merely regarded as a social activity in which members support one another. In fact, one can hardly refuse to participate in each other's schemes. When asked about the total number of schemes that the members have participated in till present, as much as 50 to 100 schemes were

being mentioned. Chit value has increased significantly over the years: members who were once participating in a Rs. 15,000 ($300) scheme are now in a Rs. 200,000 ($4000) scheme. Yet, most common chit schemes have a value of Rs. 50,000 ($1000) and Rs. 100,000 ($2000). Members invest money from chit schemes in land acquisition or maintenance (25%) but predominantly, money is used for personal expenses (65%). In 10% of the cases money is used for business investment or to lend out to third parties for higher return. As chit schemes are not seen as a form of business, members do not see why they should participate in registered chit schemes instead.

6.7 Members in registered chits also participating in unregistered chits

Among our survey results, we found that a small portion of registered chit members are participating or have participated in unregistered Chit Funds. The proportions vary by state ranging from approximately 5% in Kerala to 17% in Karnataka.

Figure 6-1 Percentage of Registered Chit Members Participating/Participated in Unregistered Chits
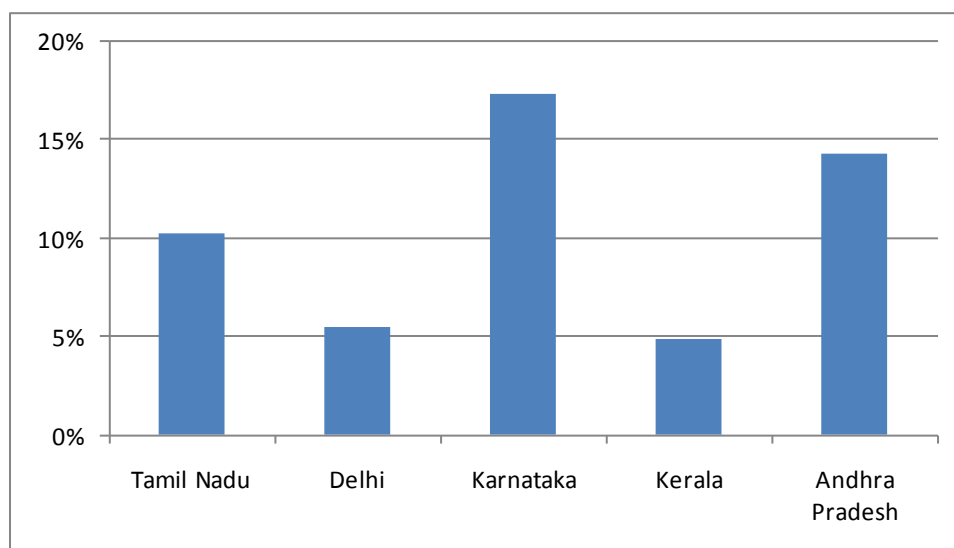
The average chit value of the unregistered chit schemes that the registered chit members participate ranges between $1225 in Kerala and $5564 in Delhi. The average duration ranges between 15 months in Delhi and 29 months in Andhra Pradesh.

Table 6-6 Chit Value & Duration of Unregistered Chit Schemes

State	N	Chit Value (US $)			Duration (months)			Equivalent Monthly Installement (EMI)		
		Mean	Std	Median	Mean	Std	Median	Mean	Std	Median
Andhra Pradesh	60	$2,257	$2,417	$2,000	29	13	25	$100	$160	$50
Delhi	11	$5,564	$7,298	$2,000	15	4	14	$420	$621	$143
Karnataka	42	$3,205	$6,273	$2,000	28	9	25	$124	$310	$50
Kerala	16	$1,225	$987	$1,000	24	13	20	$58	$50	$50
Tamil Nadu	40	$1,521	$2,089	$1,000	21	9	20	$72	$103	$40

Among registered chit members, one of the most common reasons for participating in unregistered chits is the introduction to the scheme by a friend or relative. This also indicates that the social network is a prominent feature in unregistered chits.

Table 6-7 Reasons for Registered Chit Members Participation in Unregistered Chits

Reason	Overall	By State				
		Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Friends/Relatives Introduced	33.5	41.5	30.0	36.7	16.7	31.2
No rules	6.7	12.2	-	-	11.1	8.2
Better returns	2.8	-	-	2.0	-	6.6
Trustworthy	11.2	31.7	30.0	-	-	6.6
Others	26.8	9.8	20.0	14.3	61.1	39.3
Unknown	19.0	4.9	20.0	46.9	11.1	8.2

When looking at the reasons that registered chit members did not participate in unregistered chits, a very high proportion stated that they felt it was not safe.

Table 6-8 Reasons for Registered Members to NOT participate in Unregistered Chits

Reason	Overall	By State				
		Tamil Nadu	Delhi	Karnataka	Kerala	Andhra Pradesh
Not safe	75.6	93.0	80.1	23.5	80.2	85.4
Not interested	3.6	2.0	1.2	1.7	8.7	2.8
Not aware	2.2	1.4	7.6	0.4	-	3.6
Lower returns	0.1	-	1.2	-	-	-
Others	5.0	3.3	6.4	3.0	8.7	3.9
Unknown	13.5	0.3	3.5	71.4	2.3	4.4

6.8   Case studies on unregistered Chit Fund managers and members

In addition to the previous interviews on unregistered chit schemes in Delhi and Erode, we will now present four short case studies based on interviews with members and managers of unregistered Chit Funds.

Case Study 1: *Mrs. Kannama, who owns 20 acres of farmland, has participated in no less than 100 chit schemes from 1960 till date. When in 1971 sudden and necessary investments had to be made in maintaining the farmland, Mrs. Kannama decided to start her own unregistered Chit Fund. She selected ten friends and relatives who agreed to put in Rs. 500 ($10) each. Auctions were held only once a year so that the total duration of the scheme lasted ten years. When the first scheme came to an end in 1980, she re-started the scheme in 1981 of equal duration with the only difference that there was not one but two schemes simultaneously and the contribution had increased to Rs. 1000 ($20) and Rs. 2000 ($40) per member. These two schemes lasted till 1990 and only in 1995 Mrs. Kannama started her fourth and final scheme with a chit value of Rs. 200,000 ($4000). Instead of yearly auctions, two auctions were held per year so that the total duration of the scheme was not ten but five years. From these savings she purchased another 5 acres of land which she leased out as farm land. An interesting detail is that the total of 40*

members who participated in Mrs. Kannama's four schemes also started their own schemes in all of which she has participated.

Case Study 2: *Mr. Thirumurthy is one of the few unregistered Chit Fund owners in rural Erode who is not a farmer. He started operating chit schemes in 2002 to be able to save money for his marriage. Members were easily found among friends and relatives; 80% of whom were business people as well. Four of his members also started their own Chit Fund but Mr. Thirumurthy did not participate in any of these although he did participate in his own schemes. The first scheme had a chit value of Rs. 50,000 ($1000) and a duration of 20 months, the second and third scheme had a chit value of Rs. 30,000 ($600) each and a duration of 12 months. After completion Mr. Thirumurty re-started all the three schemes and operates them till date. He charges 4% commission from his members as a source of income from the scheme. Meanwhile Mr. Thirumurty has saved enough money to get married and now uses the Chit Fund money for business investments.*

Case Study 3: *Unlike most of the other respondents, Mr. Chandran considers unregistered Chit Funds as a formal way of doing business. He has been running schemes since 1989 and at present he owns six schemes of different value and duration. The smallest scheme is only Rs. 10,000 ($200) with a duration of 10 months while the largest scheme has chit value of Rs. 200,000 ($4000) and a duration of 30 months. From every scheme, Mr. Chandran claims the second prize money as 'commission'. In order to keep late payments at a minimum level, members get fined Rs. 50 ($1) or Rs. 25 ($0.5) per day according to the size of the scheme. For the larger schemes (>Rs. 50,000 or $1000), Mr. Chandran also requires securities from his members. According to him, only by applying such rules, chit schemes can continue to work. When asked why he does not want to get his Chit Fund registered, Mr. Chandran says "it makes no difference with registered Chit Funds; if needed I could file a case at court, e.g. in case of default payments." Luckily, this has never happened.*

Case Study 4: *Lastly there is Mr. Ratnaswamy who is less positive about unregistered Chit Funds after experiencing a loss of Rs. 150,000 ($3000) to a relative who was in charge of the scheme. Ever since, Mr. Ratnaswamy is no longer interested in participating in any Chit Fund. If he is in need of money he prefers getting a loan from the bank instead.*

7. Conclusion/Further Research Suggestions

The results from this study underscore the importance of Chit Funds as a savings and borrowing vehicle for the poor and lower income households in India. The data we collected from the Chit Fund registrars of five different states (Andhra Pradesh, Tamil Nadu, Karnataka, Kerala and Delhi) for the first time allows us to estimate the size of the registered chit industry. We find that the total amount of capital that is lent out per year through registered Chit Funds is 10% to 50% of all priority-sector lending which is extended by regular banks in these same states. However, this is just a lower bound estimate on the size of the industry since there are a large number of unregistered Chit Funds operating in these states as well. Our estimates in two major metropolitan areas suggest that on average the size of unregistered Chit Funds is about 67 times of the registered industry in Delhi and 3.2 times in Chennai. These numbers are quite staggering and suggest that Chit Funds play a major role for borrowers and savers in these Indian states. In particular, Chit Funds tend to provide alternative access to financial services in geographic areas and parts of the population that are underserved by the formal bank industry.

For example, our survey data suggests that on an average 50% of Chit Fund clients are poor households. While most households (72%) rank the savings aspects of Chit Funds most highly they also value the flexible provision of credit and the ability to save for a particular target event, e.g. marriage, education etc.

The survey also shows that customers feel very comfortable with the bidding process: they have set bidding strategies and are very sensitive in their bidding behavior to the overall changes in

economic conditions, e.g. outside interest rate. All this suggests that poor chit members are not confused by the process but know how to navigate the bidding process.

Our research also indicates that members (current and previous participants) have trust in their registered Chit Fund, with 96% of them perceiving the registered chit industry as safe or very safe.

But the recent trends in the industry have led to a concerning evolution which has limited the reach of the Chit Funds to poorer households. Our data shows that over the last decade, but in particular the last five years, most funds have moved away from smaller chit schemes and mainly offer large schemes (the number of schemes registered decreased by 10% from 2003 to 2006 while the total value increased by 13% during the same time period).These developments make it very difficult for poorer borrowers to participate in chit schemes and often leave them without any institutional savings options. One might argue that some of this inflation of chit sizes is a function of the increasing wealth levels in India. However, the increase in the value of the chit schemes far outweighs the inflation rate and is also larger than any reported income increases at the bottom of the income distribution. As described previously, we believe that the recent changes in Chit Fund regulation have significantly increased the transaction costs for chits, and since most of the costs have to be incurred for each additional member the regulations have pushed funds away from serving the poor. Instead funds can only justify the transaction costs per capita if the individual ticket size is relatively large.

Therefore in phase II of the Chit Fund project that we are planning with the Gates Foundation we want to address these questions. In particular we propose to test:

1. Impact of setting up registered Chit Funds in rural areas – Majority of the poor people in India live in the rural areas. Under this pilot project, we propose to collaborate with volunteering chit companies to start a registered chit scheme in one village in each of the four states – Tamil Nadu, Andhra Pradesh, Karnataka and Delhi. We will document the

costs of registration and implementation of the schemes as well as the defaults and repayment behavior of the rural chit members. We will compare the costs and member behavior to that of an urban scheme with similar characteristics to understand what are the costs and benefits to chit companies to do business in rural areas and thus serve the poor in these areas.

2. Impact of altering collateral/guarantee requirements – Most of the poor people in India are unable to provide collateral or guarantee for the loans they require as they do not have access to any property of significant value nor are they able to provide guarantees from trusted people (like government employees). Under this pilot project, we propose to work with volunteering chit companies to start low value chit schemes where the members are asked to provide nil or lower collateral or guarantee than in a usual scheme. We will study the defaults and repayment behavior in the schemes to understand the impact of lowering collateral and guarantee requirements.

3. Developing a credit scoring model for Chit Funds – Given the long history of chit funds in India, the information that each chit company will have on its members will be humongous. Under this pilot project, we propose to look at the data available with the chit companies, put the data in an analyzable format and finally build prediction models using the data that would help Chit Funds to foresee the repayment behavior of the members.

Appendix A: Poverty Definition

India has a population of around 1.2 billion and per capita GDP of $2700 (2007 estimate)[14]. According to government estimates, in 2007 there were nearly 220 million people living below the poverty line. Nearly 21% of the entire rural population and 15% of the urban population of India exists in difficult physical and financial predicament.

India defines its poverty line at roughly Rs.15 consumption a day (i.e. $0.31 per day[15]). The government says this is enough to maintain a 2,200-calorie diet required to prevent death. This is based on a 15-year old definition that does not include current inflation rates. The new World Bank poverty line is $1.25 or Rs.60.8 consumption per day[16]. According to our survey of chit fund members, the average subscriber consumes around $1.45 per day. This is well below the Foundation's definition of poverty at $2 consumption per day.

Based on our research findings, the poorest among chit members are identified in the following manner:-

Monthly contributions by a subscriber (below) – Rs.2000

Income of the subscriber at 5 times contribution – Rs.10000

Household consumption at 70% of income – Rs.7000

Monthly consumption per head (assuming 5 members per household) – Rs.1400

Daily consumption per head (in INR) – below Rs.47

Daily consumption per head (in USD) – below $1 (approx.)

Keeping in mind our previous findings and the World Bank's definition of poverty, for the proposed pilot chit fund schemes, we define poverty as **consumption below $1.25 per day.**

---

[14] Source: World Economic Factbook, CIA World Factbook
[15] USD/INR exchange rate is taken as Rs.48.63 (as on January 6, 2009)
[16] Source: Businessworld Issue 16-22 Sep 2008, World Bank website

Appendix B: Survey questionnaire

I. DEMOGRAPHIC DETAILS			
S. No	**QUESTIONS**	**CODING CATEGORIES**	**INSTRUCTIONS**
101	Can you please tell me your age?	☐☐ years	
102	What is the highest level of education you have completed? **SINGLE CODING**	Illiterate .... 1 Literate but no formal schooling..................... 2 School up to 4 years .... 3 School 5-9 years.. 4 SSC/HSC/ Matric .... 5 Some college (incl. Dip.) But not graduate.. 6 Graduate .... 7 Post graduate .... 8 Refused to answer...97	
103	Can you please tell me your approximate monthly income? **SINGLE CODING**	Below Rs.5,000.. 1 Rs.5,001-Rs.10,000....................................... 2 Rs.10,001-Rs.15,000 .... 3 Rs.15,001-Rs.20,000 .... 4 Rs.20,001-Rs.25,000 .... 5 Rs.25,001-Rs.30,000 .... 6 Rs.30,001-Rs.50,000 .... 7 If more than Rs.50,000 please enter amount .... 98 ☐☐☐☐☐☐☐☐☐ Refused to answer...97	SHOW CARD 1

II. FINANCING DETAILS			
S. No	**QUESTIONS**	**CODING CATEGORIES**	**INSTRUCTIONS**
201	Do you currently have a bank account?	Yes ....1 No .... 2 Refused to answer...97	☞ Skip to Q. 202 ☞ Skip to Q. 202
201a	If yes, what type of account do you currently hold? **MULTIPLE CODING**	Savings account...1 Current account .... 2 Deposit account.. 3 Demat account .... 4 Others (Please specify)................................ 98 _____ Refused to answer 97	SHOW CARD 2

S. No	QUESTIONS	CODING CATEGORIES		INSTRUCTIONS
205	According to you, among the given source for taking loan, who do think offers the lowest interest rate? **PLEASE RANK THE FOLLOWING OPTIONS**	**Source**	**Rank**	SHOW CARD 5
		a. Family		
		b. Friends		
		c. Bank		
		d. Chit fund		
		e. Private money lender		
		f. Others (Please specify):		
		Don't know/ Can't say 99		
		Refused to answer 97		

III. CHIT PARTICIPATION DETAILS			
S. No	**QUESTIONS**	**CODING CATEGORIES**	**INSTRUCTIONS**
301	Have you been participating regularly in Chit funds?	Yes .... 1 No .... 2 Refused to answer...97	☞ Skip to Q. 303 ☞ Skip to Q. 303
302	For how many years are you participating in Chit funds? **SINGLE CODING**	At least for the last 5 years............................ 1 For the last 6-10 years .... 2 For the last 11-20 years .... 3 More than 20 years.. 4 Don't know/ Can't say .... 99 Refused to answer 97	
303	Approximately how many Chit fund schemes have you participated in throughout your life? **SINGLE CODING**	Only one scheme (Currently participating) .... 1 More than one scheme (Please enter the number of Chit fund schemes)...................... 98 ☐☐ Refused to answer 97	☞ Skip to Q. 305
304	Are all the Chit schemes with the same chit fund company or with different companies? **SINGLE CODING**	Same company .... 1 Different companies .... 2 Refused to answer 97	
305	Who introduced you initially to chit schemes? **SINGLE CODING**	Immediate family.. 1 Extended family .... 2 Friends... 3 Business partners... 4 Agent of Chit company .... 5 Others (Please specify)................................. 98 _____ Refused to answer 97	

98

S. No	QUESTIONS	CODING CATEGORIES	INSTRUCTIONS
306	What fractions of your friends or relatives participate in Chit schemes? **SINGLE CODING**	Less than 20%... 1 20%-40%... 2 41%-60%... 3 61%-80%... 4 More than 80%... 5 Everyone participates .... 6 Don't know/ Can't say .... 99 Refused to answer 97	SHOW CARD 6
307	Why do you participate in Chit schemes? **MULTIPLE CODING**	I use chit schemes as way to save .... 1 I use chit schemes as a way to invest my working capital .... 2 I use chit schemes as way to raise capital for my business .... 3 I use chit schemes as way to raise capital for personal consumption .... 4 I use chit schemes because I can raise capital and save in the scheme................................... 5 Others (Please specify)................................. 98 _____ Refused to answer 97	
308	For what purpose do you usually bid in a chit scheme? **MULTIPLE CODING**	For a business investment .... 1 For working capital... 2 To buy goods for the household...................... 3 For marriage.. 4 For health care .... 5 For emergency needs..................................... 6 Others (Please specify)................................. 98 _____ Refused to answer 97	
309	If you are saving in a Chit fund scheme, do you have a specific savings goal in mind? **MULTIPLE CODING**	Yes, I save for marriage .... 1 Yes, I save for vehicle purchase...................... 2 Yes, I save for house purchase .... 3 Yes, I save for jewel purchase .... 4 No particular goal .... 5 Others (Please specify)................................. 98 _____ Refused to answer 97	

S. No	QUESTIONS	CODING CATEGORIES	INSTRUCTIONS
310	Why do you participate in Chit Schemes rather than a bank? **MULTIPLE CODING**	Cannot get access to bank...............................1 More familiar than bank...................................2 More flexible than bank ....3 Better returns ....4 Better interest rate...5 Chit funds collect money from my doorstep .....6 Others (Please specify)..................................98 _____ Refused to answer 97	
311	Other than the registered chit fund scheme you are currently a member, do you participate in unregistered chit funds as well?	Yes...1 No...2 Refused to answer 97	☛ Skip to Q. 311d ☛ Skip to Q. 312
311a	If yes, can you please tell us why you participate in unregistered chit funds?		

311b If yes, can you please tell us the chit value of each of the chit schemes you are participating in unregistered chit funds?

b1. Chit Scheme 1	b2. Chit Scheme 2	b3. Chit Scheme 3	b4. Chit Scheme 4	b5. Chit Scheme 5
b1. Value: Rs. ☐☐☐☐☐	b2. Value Rs. ☐☐☐☐☐	b3. Value: Rs. ☐☐☐☐☐	b4. Value: Rs. ☐☐☐☐☐	b5. Value: Rs. ☐☐☐☐☐☐☐

311c What is the duration of each scheme? (In months)

c1. Chit Scheme 1	c2. Chit Scheme 2	c3. Chit Scheme 3	c4. Chit Scheme 4	c5. Chit Scheme 5
c1. Duration: ☐☐	c2. Duration: ☐☐	c3. Duration: ☐☐	c4. Duration: ☐☐	c5. Duration: ☐☐☐

S. No	QUESTIONS	CODING CATEGORIES	INSTRUCTIONS
311d	If no, can you please tell us why you do not participate in unregistered chit funds?		
312	Did you ever have to borrow money to cover your chit payments?	Yes...1 No...2 Refused to answer 97	☛ Skip to Q. 313 ☛ Skip to Q. 313
312a	If yes, from whom did you borrow? **MULTIPLE CODING**	Family or friends ....1 Money lender...2 Business partner ....3 Other chit members ....4 Other chit fund..5 Others (Please specify)..................................98 _____ Refused to answer 97	

S. No	QUESTIONS	CODING CATEGORIES	INSTRUCTIONS
313	How often has it happened that you needed the money urgently but did not get the chit when you bid on it? **SINGLE CODING**	Never .... 1 1-2 times .... 2 3-4 times .... 3 5-10 times .... 4 It happens very frequently .... 5 Refused to answer.........................97	☞ Skip to Q. 315 ☞ Skip to Q. 315
314	What do you do if you do not win the bid and you need the money urgently? **MULTIPLE CODING**	Borrow from family or friends.......................... 1 Borrow from Money lender............................. 2 Borrow from Business partner .... 3 Borrow from other chit members.................... 4 Borrow from other chit fund .... 5 Wait till next chit auction .... 6 I had to let go of a good business opportunity .... 7 Others (Please specify) ....98 _____ Refused to answer.........................97	
315	When do you bid? **SINGLE CODING**	Always bid early .... 1 Always bid late .... 2 Bid when you need the money .... 3 Bid when no one else is bidding .... 4 Others (Please specify) ....98 _____ Refused to answer.........................97	
316	Do you find it difficult to determine how much to bid in a chit auction?	Yes.. 1 No.. 2 Refused to answer.........................97	
317	How do you determine the final bidding amount? **SINGLE CODING**	Calculate the interest rate from the outside option and then decide the bidding amount .... 1 Depends on the rate of return from the project for which the prized money will be used .... 2 Both of the above.. 3 Others (Please specify) ....98 _____ Refused to answer.........................97	
318	Do you have a bidding strategy?	Yes.. 1 No.. 2 Refused to answer.........................97	 ☞ Skip to Q. 319 ☞ Skip to Q. 319
318a	If yes, please explain in detail		

S. No	QUESTIONS	CODING CATEGORIES	INSTRUCTIONS
319	Do you personally participate in the auction or do it through an agent? **SINGLE CODING**	Participate personally ....1 Through an agent ....2 Both personally and through agent ....3 Neither, I authorize the company to bid on my behalf...4 Others (Please specify)...............................98 _____ Refused to answer 97	☛ Skip to Q. 320 ☛ Skip to Q. 320 ☛ Skip to Q. 320 ☛ Skip to Q. 320
319a	If you participate through an agent then what instructions do you give to the agent?		
320	How many chit schemes are you currently investing in? **SINGLE CODING**	One...1 Two ....2 Three ....3 Four ....4 More than four...5 Refused to answer 97	☛ Skip to Q. 321 ☛ Skip to Q. 323
320a	If you are investing in more than one scheme why? **MULTIPLE CODING**	For surety purposes ....1 To allocate funds for different activities ....2 For insurance purposes ....3 Others (Please specify)...............................98 _____ Don't know/ Can't say ....99 Refused to answer 97	

321	What is the chit value of each of the chit schemes you are participating in?				
	a1. Chit Scheme 1	**a2. Chit Scheme 2**	**a3. Chit Scheme 3**	**a4. Chit Scheme 4**	**a5. Chit Scheme 5**
	b1. Value: Rs. ☐☐☐☐☐	b2. Value Rs. ☐☐☐☐☐	b3. Value: Rs. ☐☐☐☐☐	b4. Value: Rs. ☐☐☐☐☐	b5. Value: Rs. ☐☐☐☐☐☐

322	What is the duration of each scheme? (In months)				
	a1. Chit Scheme 1	**a2. Chit Scheme 2**	**a3. Chit Scheme 3**	**a4. Chit Scheme 4**	**a5. Chit Scheme 5**
	b1. Duration: ☐☐	b2. Duration: ☐☐	b3. Duration: ☐☐	b4. Duration: ☐☐	b5. Duration: ☐☐☐

323	Do you have more than one ticket in each chit scheme?	Yes..1 No...2 Refused to answer 97	☛ Skip to Q. 325 ☛ Skip to Q. 325

S. No	QUESTIONS	CODING CATEGORIES	INSTRUCTIONS
324	Why do you have more than one ticket in the same scheme? **MULTIPLE CODING**	For surety purposes ....1 To allocate funds for different activities ....2 For insurance purposes ....3 To be able to have more chance of winning in an auction ....4 To be able to bid more in each auction............5 Others (Please specify)..................................98 _____ Refused to answer 97	
325	Do you put money in more than one chit fund company?	Yes ....1 No...2 Refused to answer 97	
326	Why do you participate in these chit fund company(s)?		
327	In your opinion how safe is the chit fund company you are participating in?	Not so safe ....1 Safe ....2 Very safe..3 Refused to answer 97	SHOW CARD 7
328	Do you know the owner of the chit company?	Yes ....1 No...2 Refused to answer 97	☛ Skip to Q. 329 ☛ Skip to Q. 329
328a	If yes, how well do you know him/her? **SINGLE CODING**	S/he is a friend/ relative ....1 Met him/ her several times ....2 Met him/ her once...3 Others (Please specify)..................................98 _____ Refused to answer 97	
329	Do you know the any other staff members in the chit company?	Yes ....1 No...2 Refused to answer 97	☛ Skip to Q. 401 ☛ Skip to Q. 401
329a	If yes how well do you know him/her?	S/he is a friend/ relative ....1 Met him/ her several times ....2 Met him/ her once...3 Others (Please specify)..................................98 _____ Refused to answer 97	

IV. BUSINESS DETAILS – THIS SECTION IS TO BE ADMINISTERED ONLY TO BUSINESS MEN/ WOMEN (THOSE CODED 4 in Q. 002 UNDER RESPONDENT TYPE) FOR OTHER RESPONDENTS SKIP TO SECTION V – MAIN SURVEY I			
S. No	**QUESTIONS**	**CODING CATEGORIES**	**INSTRUCTIONS**
401	How many businesses have you managed in total in your entire life? **SINGLE CODING**	One...1 Two ....2 Three ....3 Four ....4 More than four (Please record) ....5 ☐☐ Refused to answer 97	
402	For each of your largest businesses (up to 4), can you please tell us what type of business it is and how many years ago this business was started?			

S. No	Type of business		Number of years ago
1			
2			
3			
4			

403	What is the monthly combined revenue for all your businesses? **SINGLE CODING**	Please record Rs. ☐☐☐☐☐☐☐☐☐	
404	How many employees do you have in your **largest** business? **SINGLE CODING**	Please record ☐☐☐☐	
405	How did you start your **largest** business? **MULTIPLE CODING**	With personal savings ....1 Existing business capital ....2 Loan from Chit fund ....3 Selling land/ property ....4 Loan from friends/ relatives.............................5 Loan from bank ....6 Loan from money lenders................................7 Others (Please specify)..................................98 _____ Refused to answer .... 97 Don't know/ Can't say 99	
406	Do you always buy from the same suppliers?	Yes ....1 No ....2 Refused to answer 97	

S.No	Statements	-5	-4	-3	-2	-1	0	1	2	3	4	5
504	It is easy for me to stick to my aims and accomplish my goals.	1	2	3	4	5	6	7	8	9	10	11
505	I accomplish a lot at work because I love my job.	1	2	3	4	5	6	7	8	9	10	11
506	When I get what I want, it is usually because I worked hard for it.	1	2	3	4	5	6	7	8	9	10	11
507	When I am working, the demands I make upon myself are pretty high	1	2	3	4	5	6	7	8	9	10	11
508	I am confident that I could deal efficiently with unexpected events.	1	2	3	4	5	6	7	8	9	10	11
509	I closely monitor the areas where I need more practice	1	2	3	4	5	6	7	8	9	10	11
510	I seek an active role in the leadership of groups that I am part of	1	2	3	4	5	6	7	8	9	10	11
511	Its not always wise to plan too far ahead since many things turn out to be a matter of good or bad fortune	1	2	3	4	5	6	7	8	9	10	11
512	I set goals for myself in order to direct my activities for making my work a success.	1	2	3	4	5	6	7	8	9	10	11
513	When working in a group, I prefer being "in command" rather than being a follower	1	2	3	4	5	6	7	8	9	10	11
514	Most leaders have reached their positions because they were lucky enough to be in the right place at the right time	1	2	3	4	5	6	7	8	9	10	11
515	I look forward to returning to work when I am away from my work	1	2	3	4	5	6	7	8	9	10	11
516	I figure out which things I do not understand well and adjust my strategies accordingly	1	2	3	4	5	6	7	8	9	10	11
517	I can remain calm when facing difficulties because I can rely on my coping abilities	1	2	3	4	5	6	7	8	9	10	11
518	Most of my life's satisfaction is derived from my work.	1	2	3	4	5	6	7	8	9	10	11
519	Other people think I don't work very hard	1	2	3	4	5	6	7	8	9	10	11
520	When confronted with a problem, I can usually find several solutions	1	2	3	4	5	6	7	8	9	10	11

VI. MAIN SURVEY II			
S. No	QUESTIONS	CODING CATEGORIES	INSTRUCTIONS
Please give us your best answer for each question below: **GIVE THE APPROPRIATE SHOW CARD TO THE RESPONDENT AND THEN ASK THE QUESTION**			
601	I would be indifferent getting Rs.40 right now or getting Rs._____ in 10 years?	Rs._____ Don't know/ Can't say 99	SHOW CARD 10

S. No	QUESTIONS	CODING CATEGORIES	INSTRUCTIONS
602	The average price of petrol in India currently is Rs.48/liter. What will its price be in 10 years?	Rs._____ Don't know/ Can't say 99	SHOW CARD 11
603	In 10 years, I will have _____% of what I need to retire?	_____% Don't know/ Can't say 99	SHOW CARD 12
604a	Do you currently have any money saved or invested? (This might include savings accounts, mutual funds, stocks, bonds, or anything else you consider an investment)	Yes ....1 No ....2 Don't know/ Can't say 99	
604b	If you received Rs.100 today and you saved it for one year, approximately how much do you expect it to be worth?	About Rs._____ Don't know/ Can't say 99	SHOW CARD 13
604c	If you borrowed Rs.100 today and paid it back in one year, approximately how much would you have to repay?	About Rs._____ Don't know/ Can't say 99	SHOW CARD 14

605	For each of the 11 lines below (a to k) please choose the option you would prefer to receive. Assume that the money would be received with certainty

GIVE SHOW CARD 15 TO THE RESPONDENT AND THEN READ OUT THE OPTIONS

a.	Rs.1000 today...................................... 1	Rs.1000 in one year.............................2	Don't know/ Can't say................. 99
b.	Rs.1000 today...................................... 1	Rs.1050 in one year............................. 2	Don't know/ Can't say................. 99
c.	Rs.1000 today......................................1	Rs.1100 in one year.............................2	Don't know/ Can't say................. 99
d.	Rs.1000 today......................................1	Rs.1150 in one year............................. 2	Don't know/ Can't say................. 99
e.	Rs.1000 today......................................1	Rs.1200 in one year.............................2	Don't know/ Can't say................. 99
f.	Rs.1000 today......................................1	Rs.1250 in one year.............................2	Don't know/ Can't say................. 99
g.	Rs.1000 today......................................1	Rs.1300 in one year.............................2	Don't know/ Can't say................. 99
h.	Rs.1000 today...................................... 1	Rs.1350 in one year.............................2	Don't know/ Can't say................. 99
i.	Rs.1000 today...................................... 1	Rs.1400 in one year.............................2	Don't know/ Can't say................. 99
j.	Rs.1000 today...................................... 1	Rs.1450 in one year...............................2	Don't know/ Can't say................. 99
k.	Rs.1000 today...................................... 1	Rs.1500 in one year................................2	Don't know/ Can't say................. 99

606	For **each** of the 20 choices in the table below, please circle the option you prefer

GIVE SHOW CARD 16 TO THE RESPONDENT AND THEN READ OUT THE OPTIONS

a.	Banana 1	Oranges..2
b.	Rs.3400 this month.. 1	Rs.3800 in two months...................................2
c.	Gulab Jamun 1	Rasamalai...2
d.	A 15% chance of Rs.10,00,000....................... 1	Rs.500 for sure 2

	S. No	CODING CATEGORIES	
	e.	Saving money... 1	Spending money 2
	f.	Rs.100 for sure.. 1	A 50% chance of Rs.300.................................2
	g.	Lottery ticket.. 1	Ice cream 2
	h.	A 80% chance of Rs.20.................................. 1	A 10% chance of Rs.150.................................2
	i.	Being successful 1	Having fun 2
	j.	Flip a coin and *win* Rs.200 for "HEADS", but *lose* Rs.100 for "TAILS"............................ 1	Rs.5 for sure 2
	k.	Cricket 1	Soccer 2
	l.	Get Rs.60 for sure 1	Get a 1% chance of Rs.5000...........................2
	m.	Rice 1	Roti 2
	n.	A 25% chance of Rs.36.................................. 1	A 20% chance of Rs.40 2
	o.	Rice & daal.. 1	Sabzi and chapatti (roti) 2
	p.	Win Rs.100 for sure 1	Get a 75% chance to win Rs.200.....................2
	q.	Lose Rs.100 for sure 1	Take a 75% chance to lose Rs.200..................2
	r.	Potato chips 1	Chocolate...2
	s.	A 40% chance of Rs.50.................................. 1	A 30% chance of Rs.65 2
	t.	25% chance of Rs.3000 1	20% chance of Rs.4000..................................2
607		We will now ask you a few problems that vary in difficulty, please try to answer as many as you can. **GIVE THE APPROPRIATE SHOW CARD TO THE RESPONDENT AND THEN ASK THE QUESTION**	
a		A bat and a ball cost Rs 110 in total. The bat costs Rs. 100 more than the ball. How much does the ball cost?	Rs.5 ....1 Rs.10 ....2 Rs.15 ....3 Rs.20 ....4 SHOW CARD 17
b		If it takes 5 machines 5 minutes to make 5 toys, how long would it take 100 machines to make 100 toys?	5 minutes..1 50 minutes ....2 100 minutes ....3 150 minutes ....4 SHOW CARD 18
c		In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half of the lake?	24 days...1 30 days...2 36 days...3 47 days...4 SHOW CARD 19

S. No	QUESTIONS	CODING CATEGORIES									INSTRUCTIONS			
d	If you flipped a fair coin 3 times, what is the probability that it would land "Heads" at least once?	75.5%...1 85%...2 87.5%...3 90%...4									SHOW CARD 20			
e	If three gift-wrappers can wrap six toys in half an hour, how many gift-wrappers are needed to wrap twenty toys in one hour?	3...1 5...2 8...3 10...4									SHOW CARD 21			
608	We will now give you 4 different diagrams, for each diagram please tell us which of the eight options best completes the pattern. **FIRST ASK THE TRIAL QUESTION TO THE RESPONDENT AND THEN ASK THE MAIN QUESTIONS** **GIVE THE APPROPRIATE SHOW CARD TO THE RESPONDENT AND THEN ASK THE QUESTION**													
a	1	2	3	4	5	6	7	8			SHOW CARD 22			
b	1	2	3	4	5	6	7	8			SHOW CARD 23			
c	1	2	3	4	5	6	7	8			SHOW CARD 24			
d	1	2	3	4	5	6	7	8			SHOW CARD 25			
609	Below are a few questions for which you need to rate your opinion on a rating scale of -5 to 5, where -5 represents much less than average, 0 represents about average and 5 much more than average. **GIVE THE SHOW CARD 26 TO THE RESPONDENT AND THEN READ OUT THE STATEMENTS**													

S. No	Statements	-5	-4	-3	-2	-1	0	1	2	3	4	5
a	Compared to the average person taking this survey today, how seriously did you take this survey?	1	2	3	4	5	6	7	8	9	10	11
b	Compared to the average person taking this survey today, how much do you like taking risks?	1	2	3	4	5	6	7	8	9	10	11
c	Compared to the average person taking this survey today, how much do you trust people?	1	2	3	4	5	6	7	8	9	10	11
d	Compared to the average person taking this survey today, how happy are you?	1	2	3	4	5	6	7	8	9	10	11

THANK & TERMINATE THE INTERVIEW

Appendix C: Full sample Delhi

Demographics – Sample 410 Delhi

Variable	Delhi (N=410)	Variable	Delhi (N=410)
Gender (%)		**Occupation** (%)	
Male	75.4	Self-Employed	46.3
Female	24.6	Salaried Employee (non-gov.)	28.8
Age (mean)	41.3	Salaried Employee (gov.)	7.1
Education (%)		Housewife	11.0
≤ 9 years of schooling	2.2	Retired	4.4
Attended High School	30.7	Other	2.4
Graduate Degree	55.4	**Monthly Income** (%)	
Post Graduate Degree	11.7	≤ 200 $	11.2
		] 200 $ - 400 $]	38.1
		] 400 $ - 600 $]	33.2
		> 600 $	15.1
		Unknown	2.4

Financing Details – Sample 410 Delhi

Variable	Delhi (N=410)	Variable	Delhi (N=410)
Has bank account (%)	99.5	**Preferred mode of savings** (%)	
Type of bank account (%)		Bank/Post Office	52.0
Savings	89.2	Chit Fund	36.3
Current	34.8	Mutual Fund	8.1
Deposit	10.8	At home	3.7
Demat	6.6	Other	0.0
Other	0.0	Unknown	0.0
Has bank loan (%)	11.7	**Preferred source of loans** (%)	
Type of bank loans (%)		Bank	40.5
Business loan	43.8	Family	27.6
Personal loan	41.7	Chit Fund	24.6
Vehicle loan	29.2	Friends	5.6
Jewel loan	0.0	Money Lenders	1.5
Others	8.3	Other	0.0
Unknown	0.0	Unknown	0.0
		Preferred source of loans (low interest rates) (%)	
		Bank	24.4
		Family	46.8
		Chit Fund	20.5
		Friends	8.1
		Money Lenders	0.0
		Other	0.0
		Unknown	0.0

Chit Fund Participation Details – Sample 410 Delhi

Variable	Delhi (N=410)
Current Chit Fund user (%)	48.5
Regular participation in Chit Funds (%)	49.5
Length of participation in Chit Funds (%)	
≤ 5 years	33.7
6 - 10 years	41.7
11 - 20 years	15.6
> 20 years	5.1
Unknown	1.71

Variable	Delhi (N=410)
Ex-ante: **Reasons for participation in Chit Fund schemes** (%)	
To save	62.4
To raise capital for personal consumption	68.1
To invest in working capital	29.3
To raise capital for business	33.2
To raise capital and save	53.2
Other	0.7
Ex-post: **Reasons for bidding in a given month** (%)	
Emergency needs	67.8
Business investment	37.6
Purchase household goods	21.7
Working capital needs	24.9
Health care	22.0
Marriage	14.9
Other	2.4

Variable	Delhi (N=410)
Reasons for saving in Chit Fund schemes (%)	
House purchase	33.2
Marriage	62.4
Jewel purchase	68.1
Vehicle purchase	29.3
General	53.2
Other	0.7

Variable	Delhi (N=410)
Reasons for participating in Chit Funds rather than a bank, (%)	
Better returns	56.1
Better interest rate	45.4
Less documentation / collateral required	42.9
More familiar	16.3
Better service (collect money from doorstep	43.2
No bank access	9.3
Other	1.0
Unknown	1.5

Appendix D: Psychometric variable definitions and methodology

Psychological traits (Range from -5 to 5)

Achievement Motivation (AchM):

The need for achievement is a distinct human motive which can be defined as a need for success or attainment of excellence. Individuals satisfy their needs through different means, and are driven to success for reasons both internal and external. McClelland asserted that while most people do not possess a strong achievement-based motivation, those who do, display consistent behavior in setting goals. Achievement-motivated individuals are different from gamblers or risk takers. They set achievable goals which they can influence with their effort and ability. This results-driven approach is almost invariably present in the character make-up of all successful individuals (Cassidy and Lynn 1989). The questions (Hermans 1970), used to indicate achievement motivation, are 503, 507 and 519 of main survey part 1.

Locus of Control (LC):

A person's perception of the source of his or her fate is termed as a locus of control, i.e. the degree to which people believe they are master of their own fate. Individuals who believe that they control what happens to them are 'Internals' or internally motivated and have an *Internal Locus of Control*. Those who believe that outside factors such as luck or chance controls their fate are 'Externals' or externally motivated and have an *External Locus of Control* (Robins 2003). Empirical evidence (J. and Tewary 1979) shows that internals are more suited for jobs which require initiative and independence of action. Internals believe that they personally are in control of their destiny and that luck and fate have only a modest influence on the outcome of events. For internals, personal destiny comes from within and therefore they tend to be self-reliant and independent. Questions (Levenson 1974) 501, 505, 511 and 514 from part 1 of the main survey have been used to measure Locus of Control.

Meta- Cognitive Activity (MC):

Simply defined, meta-cognition is thinking about thinking (Jennifer A. Livingston, 1997). It refers to the higher order thinking that involves active control over the thinking processes involved in learning. It consists of two basic processes occurring simultaneously: monitoring our progress as we learn, and making changes and adapting our strategies if perceived that we are not doing so well (Winn and Snyder, 1998). It's about self-reflection, self-

responsibility and initiative, as well as goal setting and time management. Activities such as planning how to approach a given learning task, monitoring comprehension, and evaluating progress toward the completion of a task are meta-cognitive in nature.

"Meta-cognitive skills include taking conscious control of learning, planning and selecting strategies, monitoring the progress of learning, correcting errors, analyzing the effectiveness of learning strategies and changing learning behaviors and strategies when necessary" (Ridley *et al.* 1992). The questions (Rybowiak et al 1999) constructed to measure meta-cognitive activity include, 502, 509, 512 and 516.

Need for Dominance (ND):

In society, the relative position of an individual is determined by structure of the society and the relative importance given to various occupations. Domination is the condition of having control or power over people or things. Like many other needs of humans, the need for dominance is a motive to acquire a dominating position in society. Also, people who don't want to be in subordinate position or don't want to take orders from anyone else tend to work for themselves. High need for dominance could be a key characteristic of an individual. Thus we have selected need for dominance as one of the variables which is measured by questions (Steers and Braunstein, D. N. 1976) 510 and 513.

Passion for Work (PW):

An individual's passion for his or her work comes from self motivation to work more driving to achieve the goal. It creates an insatiable hunger for excellence. However, many people do not enjoy their work and do it to earn a livelihood, rather than out of interest. Passion for work has been measured by questions (Locke 1993) 505, 515 and 518.

Self- Efficacy (SE):

Self-efficacy is defined as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives (Bandura 1997). Self efficacy beliefs determine how people feel, think, motivate themselves and behave. An efficacious outlook fosters intrinsic interest and deep engrossment in activities (Bandura 1997). Self-efficacious individuals set themselves challenging goals and maintain strong commitment to them. When met with failure, they heighten and sustain their efforts and quickly recover their

sense of efficacy after it. Also they attribute failure to insufficient effort or lack of knowledge and skills which they think can be acquired. This approach produces personal accomplishments, reduces stress and lowers vulnerability to depression. We measure this through questions (Schwarzer et al 1997) 504, 508, 517 and 520 in part 1 of the main survey.

Psychometric Variables	Questions (Main Survey)	Formula used
Achievement Motivation	503, 507, 519	(A503+A507-A519)/3
Locus of control	501, 505, 511, 514	(-A501+A505-A511-A514)/4
Meta- cognitive activity	502, 509, 512, 516	(A502+A509+A512+A516)/4
Need for dominance	510, 513	(A510+A513)/2
Passion for work	505, 515, 518	(A505+A515+A518)/3
Self-efficacy	504, 508, 517, 520	(A504+A508+A517+A520)/4

Cognitive Reflection (IQ) and Risk Aversion

Intelligence Quotient (IQ): (Ranges from 0 to 7)

People with higher cognitive ability (or "IQ") differ from those with lower cognitive ability in a variety of ways. High cognitive ability is supposed to influence judgment and decision-making ability. We have used questions 607 and 608: 607 for IQ1 and 608 for IQ2 from the main survey part II for measuring IQ. And we sum both of these to get SumIQ.

Risk Aversion (RA): (Ranges from 0 to 10)

Individuals are historically associated with their risk bearing capacities and hence risk attitude is widely believed to affect the selection of individuals for different positions. We propose risk-aversion as one of our variables because an individual is required to take risky decisions in uncertain environments and hence more risk-averse individuals are less likely to bear shocks. Like IQ, we have two variables RA1 and RA2 for risk-aversion which is measured by question 606 in main survey part II.

Psychometric Variables		Questions (Main Survey)	Formula used
SumIQ	IQ1	607 (a to e)	Sum of A(607a+607b+607c+607d+607e)
	IQ2	608 (a to d)	Sum of A(608a+608b+608c+608d)
SumRA		606 (a to t)	Sum of A(606d+606f+606h+606j+606l+606n+606p+606q+606s+606t)

Appendix E: Results Second Method IRR Calculation

Chit Value 50,000 Rs | 25 Months

Month	Interest Rate	
	First Method	Second Method
1	0.01759	0.01751
2	0.01913	0.01899
3	0.02066	0.02055
4	0.02249	0.02237
5	0.02084	0.02009
6	0.02430	0.02410
7	0.02481	0.02453
8	0.02483	0.02438
9	0.02452	0.02395
10	0.02297	0.02225
11	0.02096	0.02015
12	0.01880	0.01813
13	0.01523	0.01476
14	0.01204	0.01168
15	0.00833	0.00805
16	0.00378	0.00353
17	-0.00125	-0.00146
18	-0.00754	-0.00769
19	-0.01475	-0.01489
20	-0.02348	-0.02363
21	-0.03347	-0.03364
22	-0.04455	-0.04467
23	-0.05496	-0.05503
24	-0.06342	-0.06345
25	-0.06780	-0.06781
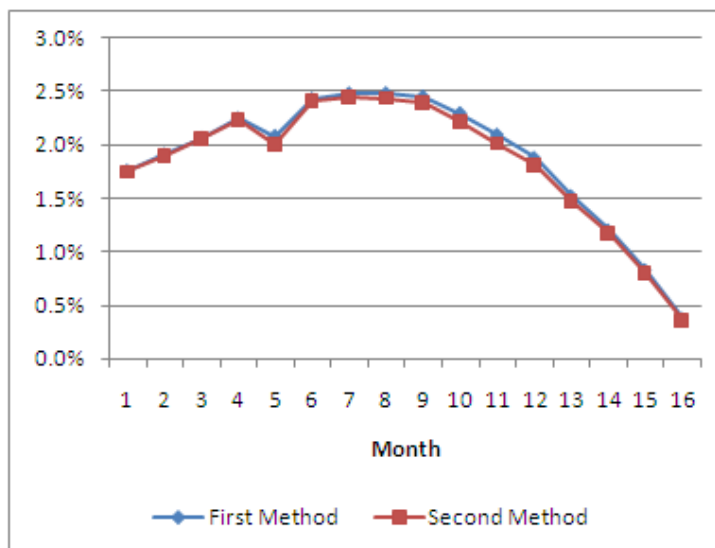
Appendix F: Interest Rate Other Chit Scheme

Month	CV 100000
1	0.000
2	0.033
3	0.040
4	0.037
5	0.036
6	0.032
7	0.026
8	0.015
9	-0.002
10	-0.023
Obs	2

Month	CV 90000
1	0.0314
2	0.0357
3	0.0408
4	0.0355
5	0.0356
6	0.0309
7	0.0290
8	0.0244
9	0.0167
10	0.0065
11	-0.0050
12	-0.0189
13	-0.0360
14	-0.0525
15	-0.0563
Obs	3

Month	CV 10000	CV 50000	CV 100000	CV 200000	CV 300000
1	0.0000	0.0217	0.0223	0.0136	0.0238
2	0.0265	0.0241	0.0266	0.0215	0.0211
3	0.0294	0.0271	0.0275	0.0238	0.0234
4	0.0307	0.0282	0.0266	0.0258	0.0252
5	0.0291	0.0280	0.0283	0.0278	0.0275
6	0.0271	0.0274	0.0258	0.0284	0.0273
7	0.0237	0.0275	0.0240	0.0278	0.0248
8	0.0208	0.0255	0.0227	0.0279	0.0249
9	0.0194	0.0245	0.0206	0.0243	0.0254
10	0.0146	0.0195	0.0203	0.0177	0.0213
11	0.0101	0.0176	0.0157	0.0177	0.0188
12	0.0071	0.0148	0.0127	0.0135	0.0157
13	0.0027	0.0108	0.0078	0.0079	0.0119
14	-0.0025	0.0043	0.0031	-0.0006	0.0066
15	-0.0095	-0.0024	-0.0023	-0.0073	-0.0017
16	-0.0192	-0.0127	-0.0103	-0.0166	-0.0153
17	-0.0278	-0.0234	-0.0186	-0.0256	-0.0275
18	-0.0370	-0.0337	-0.0273	-0.0375	-0.0436
19	-0.0441	-0.0470	-0.0350	-0.0470	-0.0566
20	-0.0491	-0.0564	-0.0399	-0.0541	-0.0623
Obs	54	24	35	14	8

Month	CV 20000	CV 25000	CV 30000	CV 40000	CV 60000	CV 125000	CV 150000	CV 400000	CV 600000
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0255	0.0103	0.0000
2	0.0180	0.0157	0.0259	0.0248	0.0260	0.0286	0.0291	0.0248	0.0235
3	0.0196	0.0224	0.0281	0.0250	0.0287	0.0317	0.0312	0.0295	0.0260
4	0.0214	0.0190	0.0307	0.0253	0.0320	0.0322	0.0287	0.0276	0.0289
5	0.0235	0.0148	0.0289	0.0202	0.0358	0.0198	0.0330	0.0229	0.0287
6	0.0255	0.0205	0.0276	0.0169	0.0381	0.0214	0.0322	0.0227	0.0283
7	0.0269	0.0155	0.0279	0.0158	0.0359	0.0232	0.0310	0.0227	0.0277
8	0.0271	0.0132	0.0282	0.0137	0.0299	0.0212	0.0264	0.0214	0.0267
9	0.0273	0.0138	0.0313	0.0142	0.0242	0.0135	0.0222	0.0203	0.0253
10	0.0264	0.0161	0.0224	0.0151	0.0171	0.0107	0.0190	0.0176	0.0233
11	0.0242	0.0148	0.0121	0.0154	0.0134	0.0096	0.0157	0.0151	0.0205
12	0.0220	0.0152	0.0044	0.0148	0.0118	0.0089	0.0111	0.0132	0.0167
13	0.0179	0.0145	0.0015	0.0116	0.0097	0.0015	0.0080	0.0069	0.0115
14	0.0121	0.0138	-0.0064	0.0090	-0.0085	0.0063	0.0018	0.0036	0.0044
15	-0.0002	0.0137	-0.0129	0.0049	-0.0157	-0.0053	-0.0048	-0.0011	-0.0051
16	-0.0136	0.0110	-0.0206	-0.0008	-0.0251	-0.0101	-0.0136	-0.0107	-0.0177
17	-0.0255	0.0090	-0.0302	-0.0062	-0.0468	-0.0157	-0.0220	-0.0216	-0.0338
18	-0.0416	-0.0048	-0.0473	-0.0183	-0.0616	-0.0312	-0.0335	-0.0330	-0.0533
19	-0.0566	-0.0200	-0.0586	-0.0305	-0.0778	-0.0487	-0.0428	-0.0428	-0.0747
20	-0.0686	-0.0360	-0.0663	-0.0422	-0.0838	-0.0659	-0.0475	-0.0576	-0.0789
Obs	5	2	3	3	5	1	5	3	1

Month	CV 10000	CV 15000	CV 20000	CV 25000	CV 30000	CV 50000	CV 75000	CV 100000	CV 125000
1	0.0000	0.0209	0.0000	0.0175	0.0000	0.0235	0.0233	0.0226	0.0225
2	0.0168	0.0226	0.0162	0.0184	0.0127	0.0194	0.0260	0.0209	0.0229
3	0.0179	0.0246	0.0176	0.0198	0.0138	0.0207	0.0273	0.0225	0.0250
4	0.0195	0.0268	0.0191	0.0215	0.0150	0.0225	0.0299	0.0243	0.0270
5	0.0213	0.0294	0.0208	0.0230	0.0164	0.0231	0.0181	0.0233	0.0137
6	0.0231	0.0158	0.0228	0.0244	0.0179	0.0243	0.0283	0.0259	0.0264
7	0.0253	0.0171	0.0251	0.0252	0.0197	0.0248	0.0277	0.0256	0.0258
8	0.0279	0.0189	0.0277	0.0259	0.0217	0.0250	0.0263	0.0245	0.0244
9	0.0305	0.0131	0.0307	0.0247	0.0240	0.0245	0.0246	0.0233	0.0234
10	0.0341	0.0146	0.0342	0.0239	0.0267	0.0230	0.0233	0.0211	0.0224
11	0.0329	0.0103	0.0337	0.0209	0.0299	0.0210	0.0224	0.0188	0.0212
12	0.0262	0.0067	0.0323	0.0179	0.0337	0.0188	0.0203	0.0168	0.0201
13	0.0186	0.0058	0.0255	0.0153	0.0294	0.0152	0.0186	0.0152	0.0185
14	0.0150	0.0046	0.0203	0.0122	0.0198	0.0120	0.0154	0.0127	0.0173
15	0.0088	0.0030	0.0153	0.0082	0.0177	0.0083	0.0126	0.0103	0.0143
16	0.0035	0.0009	0.0104	0.0043	0.0150	0.0038	0.0086	0.0074	0.0104
17	-0.0020	-0.0059	0.0022	-0.0004	0.0113	-0.0013	0.0032	0.0041	0.0062
18	-0.0095	-0.0084	-0.0061	-0.0078	0.0034	-0.0075	-0.0034	0.0003	0.0008
19	-0.0164	-0.0098	-0.0180	-0.0154	-0.0024	-0.0148	-0.0112	-0.0044	-0.0068
20	-0.0295	-0.0113	-0.0306	-0.0246	-0.0165	-0.0235	-0.0210	-0.0102	-0.0168
21	-0.0413	-0.0155	-0.0450	-0.0349	-0.0293	-0.0335	-0.0325	-0.0173	-0.0276
22	-0.0541	-0.0204	-0.0620	-0.0452	-0.0443	-0.0445	-0.0469	-0.0247	-0.0412
23	-0.0681	-0.0288	-0.0812	-0.0570	-0.0607	-0.0550	-0.0617	-0.0311	-0.0579
24	-0.0799	-0.0312	-0.0961	-0.0644	-0.0716	-0.0634	-0.0753	-0.0344	-0.0733
25	-0.0869	-0.0360	-0.1025	-0.0674	-0.0789	-0.0676	-0.0797	-0.0247	-0.0816
Obs	40	1	14	128	1	264	17	157	14

Month	CV 150000	CV 200000	CV 250000	CV 300000	CV 400000	CV 500000	CV 700000	CV 750000	CV 900000	CV 1000000	CV 1500000
1	0.0235	0.0225	0.0222	0.0173	0.0224	0.0208	0.0000	0.0000	0.0000	0.0221	0.0000
2	0.0252	0.0223	0.0233	0.0161	0.0243	0.0219	0.0224	0.0208	0.0208	0.0214	0.0201
3	0.0272	0.0242	0.0253	0.0171	0.0264	0.0238	0.0243	0.0225	0.0226	0.0232	0.0218
4	0.0300	0.0261	0.0276	0.0183	0.0288	0.0258	0.0265	0.0245	0.0246	0.0253	0.0218
5	0.0248	0.0242	0.0242	0.0198	-0.0083	0.0240	0.0290	0.0267	0.0216	0.0270	0.0217
6	0.0270	0.0261	0.0262	0.0159	0.0270	0.0264	0.0319	0.0277	0.0182	0.0280	0.0215
7	0.0267	0.0255	0.0249	0.0238	0.0260	0.0250	0.0268	0.0278	0.0200	0.0273	0.0213
8	0.0250	0.0258	0.0240	0.0237	0.0249	0.0219	0.0212	0.0275	0.0210	0.0256	0.0209
9	0.0246	0.0238	0.0217	0.0220	0.0246	0.0202	0.0150	0.0236	0.0198	0.0271	0.0203
10	0.0226	0.0239	0.0200	0.0203	0.0239	0.0192	0.0080	0.0214	0.0221	0.0248	0.0196
11	0.0202	0.0218	0.0182	0.0210	0.0226	0.0172	0.0044	0.0198	0.0219	0.0267	0.0186
12	0.0183	0.0187	0.0168	0.0210	0.0216	0.0155	0.0029	0.0186	0.0156	0.0208	0.0173
13	0.0161	0.0171	0.0160	0.0193	0.0188	0.0132	0.0000	0.0166	0.0128	0.0132	0.0156
14	0.0146	0.0157	0.0137	0.0145	0.0172	0.0119	-0.0024	0.0148	0.0042	0.0089	0.0133
15	0.0121	0.0133	0.0111	0.0134	0.0145	0.0103	-0.0041	0.0126	0.0022	0.0051	0.0104
16	0.0096	0.0096	0.0079	0.0116	0.0108	0.0084	-0.0046	0.0088	0.0025	0.0016	0.0066
17	0.0043	0.0046	0.0037	0.0079	0.0053	0.0037	-0.0053	0.0048	-0.0007	-0.0020	0.0017
18	-0.0017	-0.0017	-0.0008	0.0019	-0.0010	-0.0017	-0.0062	-0.0008	-0.0062	-0.0083	-0.0046
19	-0.0089	-0.0115	-0.0072	-0.0039	-0.0094	-0.0113	-0.0095	-0.0072	-0.0136	-0.0160	-0.0127
20	-0.0178	-0.0213	-0.0150	-0.0105	-0.0177	-0.0188	-0.0137	-0.0162	-0.0158	-0.0235	-0.0231
21	-0.0285	-0.0339	-0.0249	-0.0197	-0.0296	-0.0288	-0.0158	-0.0264	-0.0262	-0.0338	-0.0337
22	-0.0421	-0.0450	-0.0367	-0.0301	-0.0428	-0.0411	-0.0239	-0.0383	-0.0388	-0.0538	-0.0438
23	-0.0555	-0.0614	-0.0478	-0.0427	-0.0575	-0.0541	-0.0293	-0.0520	-0.0460	-0.0708	-0.0521
24	-0.0675	-0.0731	-0.0564	-0.0540	-0.0701	-0.0658	-0.0359	-0.0649	-0.0526	-0.0900	-0.0598
25	-0.0741	-0.0800	-0.0608	-0.0630	-0.0817	-0.0738	-0.0375	-0.0725	-0.0549	-0.1042	-0.0625
Obs	19	17	46	6	7	25	1	4	1	7	1

Month	CV 15000	CV 30000	CV 60000	CV 75000	CV 90000	CV 105000	CV 120000	CV 150000	CV 180000
1	0.0000	0.0147	0.0150	0.0227	0.0169	0.0172	0.0157	0.0144	0.0178
2	0.0161	0.0152	0.0157	0.0227	0.0167	0.0184	0.0168	0.0164	0.0190
3	0.0173	0.0163	0.0167	0.0243	0.0179	0.0197	0.0177	0.0171	0.0204
4	0.0185	0.0173	0.0180	0.0262	0.0192	0.0211	0.0190	0.0188	0.0219
5	0.0200	0.0184	0.0191	0.0187	0.0189	0.0000	0.0204	0.0199	0.0000
6	0.0183	0.0193	0.0200	0.0263	0.0219	0.0222	0.0212	0.0211	0.0228
7	0.0198	0.0193	0.0208	0.0261	0.0219	0.0213	0.0213	0.0224	0.0215
8	0.0211	0.0186	0.0205	0.0260	0.0202	0.0208	0.0210	0.0216	0.0214
9	0.0233	0.0190	0.0209	0.0258	0.0231	0.0203	0.0206	0.0234	0.0202
10	0.0255	0.0187	0.0204	0.0252	0.0217	0.0197	0.0197	0.0232	0.0197
11	0.0279	0.0173	0.0205	0.0253	0.0200	0.0194	0.0178	0.0221	0.0187
12	0.0263	0.0160	0.0190	0.0249	0.0189	0.0191	0.0167	0.0209	0.0176
13	0.0147	0.0153	0.0188	0.0223	0.0170	0.0180	0.0158	0.0184	0.0161
14	0.0130	0.0142	0.0181	0.0196	0.0154	0.0166	0.0127	0.0162	0.0145
15	0.0095	0.0124	0.0153	0.0170	0.0141	0.0156	0.0115	0.0144	0.0129
16	-0.0004	0.0104	0.0142	0.0154	0.0121	0.0136	0.0103	0.0124	0.0113
17	-0.0029	0.0081	0.0103	0.0124	0.0101	0.0116	0.0087	0.0101	0.0093
18	-0.0031	0.0057	0.0074	0.0065	0.0069	0.0099	0.0080	0.0056	0.0071
19	-0.0095	0.0031	0.0043	-0.0002	0.0040	0.0063	0.0036	0.0026	0.0039
20	-0.0112	0.0004	0.0011	-0.0044	0.0011	0.0029	0.0010	-0.0019	0.0013
21	-0.0137	-0.0043	-0.0033	-0.0098	-0.0020	-0.0002	-0.0026	-0.0067	-0.0025
22	0.2351	-0.0078	-0.0080	-0.0175	-0.0062	-0.0042	-0.0061	-0.0129	-0.0076
23	-0.0255	-0.0129	-0.0132	-0.0245	-0.0115	-0.0106	-0.0128	-0.0185	-0.0135
24	-0.0306	-0.0181	-0.0196	-0.0339	-0.0190	-0.0187	-0.0192	-0.0254	-0.0198
25	-0.0359	-0.0228	-0.0269	-0.0444	-0.0273	-0.0296	-0.0257	-0.0333	-0.0283
26	-0.0416	-0.0297	-0.0361	-0.0567	-0.0366	-0.0417	-0.0352	-0.0423	-0.0377
27	-0.0479	-0.0375	-0.0498	-0.0683	-0.0485	-0.0537	-0.0443	-0.0531	-0.0481
28	-0.0570	-0.0451	-0.0617	-0.0800	-0.0599	-0.0667	-0.0537	-0.0633	-0.0598
29	-0.0640	-0.0498	-0.0711	-0.0932	-0.0700	-0.0807	-0.0638	-0.0704	-0.0718
30	-0.0673	-0.0517	-0.0736	-0.0801	-0.0708		-0.0654	-0.0729	
Obs	4	47	22	6	22	1	9	40	3

Month	CV 10000	CV 20000	CV 30000	CV 50000	CV 80000	CV 200000	CV 500000	CV 1000000
1	0.0283	0.0000	0.0000	0.0139	0.0157	0.0146	0.0000	0.0155
2	0.0172	0.0114	0.0028	0.0118	0.0175	0.0124	0.0111	0.0163
3	0.0162	0.0120	-0.0015	0.0115	0.0174	0.0130	0.0114	0.0172
4	0.0156	0.0120	-0.0017	0.0120	0.0174	0.0137	0.0120	0.0181
5	0.0106	0.0122	0.0095	0.0126	0.0168	0.0145	0.0126	0.0192
6	0.0144	0.0128	0.0067	0.0133	0.0162	0.0153	0.0133	0.0203
7	0.0145	0.0137	0.0071	0.0141	0.0158	0.0162	0.0127	0.0215
8	0.0142	0.0138	0.0036	0.0143	0.0160	0.0169	0.0142	0.0000
9	0.0152	0.0129	0.0033	0.0137	0.0158	0.0179	0.0150	0.0244
10	0.0163	0.0142	0.0026	0.0153	0.0156	0.0179	0.0161	0.0206
11	0.0173	0.0143	-0.0024	0.0157	0.0153	0.0176	0.0170	0.0181
12	0.0185	0.0146	-0.0065	0.0167	0.0163	0.0162	0.0181	0.0160
13	0.0161	0.0153	-0.0072	0.0174	0.0146	0.0150	0.0196	0.0151
14	0.0156	0.0162	-0.0078	0.0175	0.0135	0.0142	0.0214	0.0082
15	0.0169	0.0168	-0.0051	0.0164	0.0145	0.0138	0.0216	0.0102
16	0.0110	0.0179	-0.0069	0.0170	0.0132	0.0131	0.0223	0.0095
17	0.0095	0.0186	-0.0060	0.0171	0.0142	0.0114	0.0232	0.0072
18	0.0088	0.0173	-0.0130	0.0174	0.0135	0.0097	0.0246	0.0070
19	0.0076	0.0154	-0.0195	0.0177	0.0131	0.0088	0.0233	0.0067
20	0.0081	0.0131	-0.0214	0.0144	0.0122	0.0074	0.0197	0.0037
21	0.0095	0.0082	-0.0305	0.0093	0.0108	0.0064	0.0193	0.0012
22	0.0056	0.0074	-0.0364	0.0083	0.0101	0.0049	0.0156	0.0003
23	0.0071	0.0070	-0.0459	0.0086	0.0089	0.0013	0.0158	-0.0018
24	0.0050	0.0043	-0.0614	0.0071	0.0071	-0.0011	0.0135	-0.0031
25	0.0031	0.0036	-0.0820	0.0048	0.0050	-0.0020	0.0142	-0.0034
26	-0.0003	0.0000	-0.1010	0.0027	0.0024	-0.0034	0.0080	-0.0052
27	-0.0061	-0.0103	-0.1228	-0.0006	0.0002	-0.0062	0.0031	-0.0057
28	-0.0091	-0.0091	-0.1427	-0.0050	-0.0033	-0.0098	-0.0008	-0.0064
29	-0.0125	-0.0123	-0.1570	-0.0093	-0.0085	-0.0125	-0.0104	-0.0071
30	-0.0166	-0.0184	-0.1648	-0.0113	-0.0138	-0.0157	-0.0181	-0.0096
31	-0.0188	-0.0219	-0.0292	-0.0154	-0.0200	-0.0193	-0.0268	-0.0126
32	-0.0225	-0.0282	-0.0322	-0.0214	-0.0276	-0.0227	-0.0349	-0.0152
33	-0.0262	-0.0323	-0.0399	-0.0282	-0.0367	-0.0268	-0.0429	-0.0183
34	-0.0308	-0.0375	-0.0420	-0.0381	-0.0490	-0.0318	-0.0553	-0.0232
35	-0.0356	-0.0438	-0.0518	-0.0469	-0.0635	-0.0369	-0.0705	-0.0317
36	-0.0422	-0.0533	-0.0679	-0.0581	-0.0766	-0.0443	-0.0837	-0.0400
37	-0.0488	-0.0626	-0.0792	-0.0701	-0.0908	-0.0515	-0.0977	-0.0482
38	-0.0578	-0.0708	-0.0889	-0.0788	-0.1030	-0.0582	-0.1096	-0.0566
39	-0.0616	-0.0755	-0.0987	-0.0875	-0.1092	-0.0623	-0.1173	-0.0598
40	-0.0641	-0.0781	-0.1016	-0.0926	-0.1124	-0.0645	-0.1211	-0.0615
Obs	5	7	2	11	2	15	8	1

Month	CV 300000	CV 600000	CV 210000	CV 360000	CV 450000	CV 510000	CV 750000	CV 900000
1	0.0159	0.0158	0.0187	0.0174	0.0167	0.0153	0.0000	0.0000
2	0.0157	0.0153	0.0200	0.0186	0.0178	0.0163	0.0136	0.0144
3	0.0167	0.0164	0.0215	0.0199	0.0191	0.0175	0.0146	0.0154
4	0.0178	0.0176	0.0231	0.0214	0.0205	0.0188	0.0157	0.0166
5	0.0186	0.0186	0.0000	0.0000	0.0201	0.0202	0.0169	0.0178
6	0.0195	0.0202	0.0238	0.0225	0.0218	0.0218	0.0175	0.0192
7	0.0201	0.0215	0.0216	0.0219	0.0222	0.0236	0.0167	0.0207
8	0.0196	0.0222	0.0202	0.0215	0.0210	0.0279	0.0150	0.0224
9	0.0209	0.0240	0.0186	0.0210	0.0227	0.0305	0.0136	0.0244
10	0.0209	0.0249	0.0180	0.0200	0.0223	0.0259	0.0132	0.0266
11	0.0204	0.0245	0.0171	0.0192	0.0214	0.0221	0.0130	0.0292
12	0.0201	0.0242	0.0161	0.0182	0.0206	0.0217	0.0129	0.0272
13	0.0185	0.0213	0.0149	0.0168	0.0185	0.0211	0.0124	0.0212
14	0.0163	0.0184	0.0134	0.0160	0.0165	0.0204	0.0113	0.0185
15	0.0151	0.0173	0.0100	0.0147	0.0142	0.0091	0.0107	0.0165
16	0.0147	0.0136	0.0059	0.0116	0.0126	0.0078	0.0097	0.0147
17	0.0139	0.0099	0.0048	0.0089	0.0108	0.0016	0.0090	0.0092
18	0.0126	0.0039	0.0033	0.0062	0.0083	-0.0039	0.0088	0.0030
19	0.0112	-0.0001	0.0015	0.0042	0.0061	-0.0065	0.0055	0.0034
20	0.0107	-0.0037	-0.0009	0.0025	0.0026	-0.0051	0.0050	-0.0007
21	0.0098	-0.0085	-0.0033	-0.0015	-0.0016	-0.0112	0.0017	-0.0088
22	0.0079	-0.0133	-0.0075	-0.0055	-0.0064	-0.0158	-0.0002	-0.0095
23	0.0048	-0.0197	-0.0122	-0.0105	-0.0140	-0.0215	-0.0052	-0.0210
24	0.0038	-0.0270	-0.0180	-0.0170	-0.0225	-0.0330	-0.0083	-0.0305
25	0.0012	-0.0375	-0.0251	-0.0258	-0.0306	-0.0410	-0.0140	-0.0405
26	-0.0014	-0.0461	-0.0336	-0.0369	-0.0416	-0.0485	-0.0197	-0.0559
27	-0.0026	-0.0573	-0.0434	-0.0513	-0.0535	-0.0557	-0.0270	-0.0631
28	-0.0010	-0.0672	-0.0540	-0.0646	-0.0650	-0.0631	-0.0325	-0.0750
29	0.0067	-0.0739	-0.0618	-0.0780	-0.0735	-0.0655	-0.0367	-0.0856
30	0.0378	-0.0770			-0.0669	0.0158	-0.0381	-0.0889
Obs	56	18	1	2	3	1	2	3

CV 50000 (Obs=47)									
Month		**Month**		**Month**		**Month**		**Month**	
1	0.0000	11	0.0124	21	0.0169	31	0.0004	41	-0.0332
2	0.0085	12	0.0131	22	0.0162	32	-0.0016	42	-0.0391
3	0.0088	13	0.0136	23	0.0154	33	-0.0042	43	-0.0455
4	0.0091	14	0.0141	24	0.0140	34	-0.0060	44	-0.0525
5	0.0095	15	0.0141	25	0.0126	35	-0.0087	45	-0.0603
6	0.0099	16	0.0145	26	0.0115	36	-0.0117	46	-0.0679
7	0.0103	17	0.0151	27	0.0085	37	-0.0148	47	-0.0760
8	0.0108	18	0.0158	28	0.0056	38	-0.0189	48	-0.0819
9	0.0113	19	0.0166	29	0.0033	39	-0.0230	49	-0.0861
10	0.0118	20	0.0170	30	0.0016	40	-0.0275	50	-0.0882
CV 100000 (Obs=14)									
1	0.0111	11	0.0123	21	0.0142	31	0.0066	41	-0.0321
2	0.0083	12	0.0130	22	0.0130	32	0.0030	42	-0.0393
3	0.0086	13	0.0136	23	0.0137	33	0.0007	43	-0.0494
4	0.0090	14	0.0144	24	0.0131	34	-0.0032	44	-0.0579
5	0.0080	15	0.0152	25	0.0127	35	-0.0046	45	-0.0679
6	0.0098	16	0.0160	26	0.0131	36	-0.0081	46	-0.0757
7	0.0102	17	0.0165	27	0.0140	37	-0.0130	47	-0.0850
8	0.0107	18	0.0162	28	0.0132	38	-0.0143	48	-0.0942
9	0.0112	19	0.0144	29	0.0100	39	-0.0198	49	-0.0999
10	0.0118	20	0.0142	30	0.0096	40	-0.0256	50	-0.1053

CV 60000 (obs=2)											
Month		**Month**		**Month**		**Month**		**Month**		**Month**	
1	0.0000	11	0.0070	21	0.0107	31	0.0183	41	0.0199	51	-0.0448
2	0.0051	12	0.0072	22	0.0112	32	0.0195	42	0.0127	52	-0.0511
3	0.0052	13	0.0075	23	0.0118	33	0.0207	43	-0.0206	53	-0.0743
4	0.0054	14	0.0078	24	0.0124	34	0.0221	44	-0.0016	54	-0.0816
5	0.0056	15	0.0082	25	0.0130	35	0.0237	45	0.0049	55	-0.0945
6	0.0058	16	0.0085	26	0.0137	36	0.0254	46	-0.0096	56	-0.1036
7	0.0060	17	0.0089	27	0.0145	37	0.0273	47	-0.0081	57	-0.1158
8	0.0062	18	0.0093	28	0.0153	38	0.0294	48	-0.0184	58	-0.1318
9	0.0065	19	0.0097	29	0.0162	39	0.0317	49	-0.0243	59	-0.1392
10	0.0067	20	0.0102	30	0.0172	40	0.0261	50	-0.0353	60	-0.1421
CV 150000 (obs=2)											
1	0.0000	11	0.0095	21	0.0057	31	0.0127	41	0.0166	51	-0.0381
2	0.0068	12	0.0099	22	0.0067	32	0.0138	42	0.0022	52	-0.0480
3	0.0071	13	0.0103	23	0.0066	33	0.0141	43	-0.0019	53	-0.0532
4	0.0073	14	0.0108	24	0.0072	34	0.0124	44	-0.0032	54	-0.0600
5	0.0076	15	0.0113	25	0.0078	35	0.0130	45	-0.0085	55	-0.0718
6	0.0079	16	0.0065	26	0.0084	36	0.0148	46	-0.0134	56	-0.0771
7	0.0082	17	0.0073	27	0.0088	37	0.0159	47	-0.0204	57	-0.0829
8	0.0085	18	0.0073	28	0.0095	38	0.0176	48	-0.0200	58	-0.0884
9	0.0088	19	0.0074	29	0.0107	39	0.0200	49	-0.0214	59	-0.0935
10	0.0091	20	0.0078	30	0.0113	40	0.0176	50	-0.0248	60	-0.0953
CV 300000 (obs=1)											
1	0.0000	11	0.0113	21	0.0113	31	0.0027	41	-0.0048	51	-0.0299
2	0.0081	12	0.0118	22	0.0007	32	-0.0020	42	-0.0048	52	-0.0311
3	0.0084	13	0.0123	23	0.0022	33	-0.0020	43	-0.0038	53	-0.0353
4	0.0087	14	0.0128	24	0.0030	34	-0.0021	44	-0.0041	54	-0.0434
5	0.0090	15	0.0134	25	0.0035	35	0.0000	45	-0.0043	55	-0.0421
6	0.0093	16	0.0140	26	0.0041	36	-0.0036	46	-0.0055	56	-0.0514
7	0.0097	17	0.0146	27	0.0044	37	-0.0047	47	-0.0067	57	-0.0550
8	0.0100	18	0.0098	28	0.0047	38	-0.0045	48	-0.0037	58	-0.0581
9	0.0104	19	0.0124	29	0.0055	39	-0.0045	49	-0.0136	59	-0.0603
10	0.0109	20	0.0111	30	0.0061	40	-0.0047	50	-0.0256	60	-0.0614

CV 25000 (obs=4)									
Month		**Month**		**Month**		**Month**		**Month**	
1	0.0068	11	0.0105	21	0.0181	31	0.0085	41	-0.0265
2	0.0071	12	0.0110	22	0.0193	32	0.0019	42	-0.0374
3	0.0074	13	0.0116	23	0.0206	33	-0.0030	43	-0.0462
4	0.0077	14	0.0122	24	0.0221	34	-0.0042	44	-0.0545
5	0.0080	15	0.0128	25	0.0189	35	-0.0031	45	-0.0751
6	0.0083	16	0.0135	26	0.0200	36	-0.0058	46	-0.0852
7	0.0087	17	0.0143	27	0.0202	37	-0.0072	47	-0.0971
8	0.0091	18	0.0151	28	0.0218	38	-0.0159	48	-0.1089
9	0.0095	19	0.0160	29	0.0219	39	-0.0204	49	-0.1174
10	0.0100	20	0.0170	30	0.0158	40	-0.0230	50	-0.1203
CV 30000 (obs=3)									
1	0.0077	11	0.0119	21	0.0183	31	0.0009	41	-0.0367
2	0.0080	12	0.0125	22	0.0172	32	-0.0003	42	-0.0446
3	0.0084	13	0.0132	23	0.0175	33	-0.0015	43	-0.0496
4	0.0087	14	0.0139	24	0.0190	34	-0.0048	44	-0.0567
5	0.0091	15	0.0146	25	0.0153	35	-0.0081	45	-0.0652
6	0.0095	16	0.0154	26	0.0147	36	-0.0126	46	-0.0733
7	0.0099	17	0.0163	27	0.0112	37	-0.0167	47	-0.0784
8	0.0104	18	0.0173	28	0.0051	38	-0.0209	48	-0.0828
9	0.0108	19	0.0184	29	0.0035	39	-0.0256	49	-0.0962
10	0.0114	20	0.0195	30	0.0016	40	-0.0328	50	-0.0989
CV 200000 (obs=2)									
1	0.0070	11	0.0107	21	0.0186	31	0.0120	41	-0.0430
2	0.0073	12	0.0113	22	0.0198	32	0.0029	42	-0.0501
3	0.0076	13	0.0119	23	0.0211	33	-0.0015	43	-0.0574
4	0.0079	14	0.0125	24	0.0226	34	-0.0041	44	-0.0649
5	0.0082	15	0.0131	25	0.0242	35	-0.0081	45	-0.0750
6	0.0086	16	0.0139	26	0.0261	36	-0.0155	46	-0.0853
7	0.0089	17	0.0147	27	0.0281	37	-0.0228	47	-0.0967
8	0.0093	18	0.0155	28	0.0304	38	-0.0290	48	-0.1058
9	0.0098	19	0.0164	29	0.0193	39	-0.0321	49	-0.1121
10	0.0102	20	0.0174	30	0.0152	40	-0.0369	50	-0.1157
CV 500000 (obs=1)									
1	0.0070	11	0.0108	21	0.0188	31	0.0103	41	-0.0230
2	0.0073	12	0.0113	22	0.0200	32	0.0096	42	-0.0380
3	0.0076	13	0.0119	23	0.0151	33	0.0116	43	-0.0476
4	0.0079	14	0.0125	24	0.0132	34	0.0124	44	-0.0561
5	0.0082	15	0.0132	25	0.0119	35	0.0052	45	-0.0718
6	0.0086	16	0.0139	26	0.0117	36	-0.0028	46	-0.0830
7	0.0090	17	0.0147	27	0.0091	37	-0.0066	47	-0.0989
8	0.0094	18	0.0156	28	0.0097	38	-0.0062	48	-0.1070
9	0.0098	19	0.0166	29	0.0107	39	-0.0071	49	-0.1133
10	0.0103	20	0.0176	30	0.0114	40	-0.0174	50	-0.1161

Appendix G: Interview Guide Unregistered Chit Schemes

Interview Guide Unregistered Chit Funds

Promoters:

1. Name, address, contact number (or just a description if they are unwilling to answer)

2. Why did you start an unregistered chit fund?

3. How did you start the chit fund? What was your source of capital?

4. How did you get members for the chit fund?

5. What types of customers do you have? What fraction are business people and what is for private use? What are the types of businesses they run?

6. How many different chit fund schemes are you running presently? Please describe the functioning of the scheme? (amount, duration, number of members, etc)

7. How do members pay their dues and how do prize winners get their money?

8. In general, what are the documents that you would ask for before admitting a member to a scheme?

9. Is there a percentage taken for administration purpose (similar to a foreman commission), if so what is the percentage? If not, what is the source of your income?

10. Are there any restrictions on the bid? If yes, why?

11. Do you require collateral/sureties from the "pot" winner? If so what type?

12. What, in your opinion, are the uses for which the members allocate the chit fund money?

13. What are the approximate default rates? Are there a lot of late payments? What is the recovery procedure on late payments/defaults?

14. What steps do you take to minimize defaults or delayed payments?

15. Do you provide side-loans to chit fund members? If yes, please describe (interest rate, terms, collateral requirements etc)

16. In your opinion what are the advantages (and disadvantages) vis-à-vis other financial intermediaries (like registered chit funds, banks, money lenders, pawn brokers, etc) to a member in participating in this scheme?

17. What are the factors that prevent you from getting registered? How can these be eliminated?

Members:

1. Name, address, contact details, business name/address (or just a description if they are unwilling to answer)

2. Why do you participate in unregistered chit funds?

3. Approximately how many schemes have you participated in until now? Describe the scheme(s) you are participating/ have participated in (chit value, duration etc)

4. Why do/did you participate (bid/save) in chit schemes? Why do/did you participate in chit schemes rather than a bank?

5. What do/did you do if you do not win the bid and you need the money urgently?

6. In your opinion how safe is/was the chit fund you are/were participating in?

7. How do/did you determine how much to bid in a chit auction?

8. Who introduced you initially to chit schemes?

Chit Funds as an Innovative Access to Finance for Low-income Households

Appendix H: Estimates for Unregistered Chit Industry by Ward

Chennai Market and Residential

Area	Ward	Retail / Wholesale	No. of Shops	Value of Goods	Chit value per value of goods	Total Chit Value (Rs.)
Dr.Radhakrishnan Nagar (North)	Dr. Radhakrishnan Nagar	retail	50	Low	50000	2500000
Korukupet		retail	120	Low	50000	6000000
Tondiarpet	Royapuram	retail	150	Low	50000	7500000
Royapuram		retail	280	Low	50000	14000000
Old Washermenpet		retail	350	Middle	100000	35000000
Kondithope	Harbour	retail	350	Low	50000	17500000
Seven Wells (North)		retail	100	Middle	100000	10000000
Sowcarpet		wholesale	7000	High	5000000	35000000000
Basin Bridge	Perambur	retail	500	Low	50000	25000000
Vysarpadi (South)		retail	700	Middle	100000	70000000
Vysarpadi (North)		retail	500	Low	50000	25000000
Perambur (North)		retail	1100	Middle	100000	110000000
Park Town		wholesale	5000	High	5000000	25000000000
Elephant Gate		wholesale	5000	Middle	1500000	7500000000
Purasawalkam	Purasawalkam	retail	4000	High	100000	400000000
Virugambakkam (North)	Villivakkam	retail	1000	Middle	100000	100000000
Chintadripet	Chepauk	retail	1500	Middle	100000	150000000
Zam Bazaar	Triplicane	retail	1500	Middle	100000	150000000
Thiruvallikeni		retail	4000	Middle	100000	400000000
Egmore	Egmore	retail	30000	High	100000	3000000000
Pudupet		wholesale	2500	Low	750000	1875000000
Thousand Lights	Thousand Lights	retail	2000	Middle	100000	200000000
Royapettah		retail	3000	Middle	100000	300000000
Teynampet		retail	1500	Middle	100000	150000000
Thiyagaraya Nagar	T. Nagar	retail	4000	High	100000	400000000
Kodambakkam (North)	Alandur	retail	1500	High	100000	150000000
Kodambakkam (South)		retail	700	High	100000	70000000
Guindy (West)	Saidapet	retail	500	Middle	100000	50000000
Guindy (East)		retail	250	Middle	100000	25000000
Mylapore	Mylapore	retail	2000	High	100000	200000000
Adyar (West)		wholesale	1500	High	5000000	7500000000

128

Area	Ward	Household size per area	Household size per ward	Income Level	% of household participating in unreg. CF	Chit value (Rs)	Total Chit Value (Rs.)
Kodungaiyur (West)	Thiruvotriyur	12764	24173	Low	50%	5000	60432500
Kodungaiyur (East)		11409					
Dr.Radhakrishnan Nagar (North)	Dr. Radhakrishnan Nagar	9896	67456	Low	50%	5000	168640000
Cherian Nagar (North)		4465					
Jeeva Nagar (North)		8497					
Cherian Nagar (South)		5082					
Jeeva Nagar (South)		4947					
Korukupet		7280					
Mottai Thottam		4225					
Kumaraswamy Nagar (South)		8827					
Dr.Radhakrishnan Nagar (South)		5931					
Kumaraswamy Nagar (North)		3666					
Dr. Vijayaraghavalu Nagar		4640					
Tondiarpet	Royapuram	6784	40679	Low	50%	5000	101697500
Royapuram		3226					
Old Washermenpet		4067					
Sanjeevarayanpet		4690					
Grace Garden		4906					
Ma Po Si Nagar		5167					
Singara Garden		3549					
Narayanappa Garden		3473					
Meenakshiammanpet		4817					
Kondithope	Harbour	3286	28967	Middle	30%	25000	217252500
Seven Wells (North)		3143					
Sowcarpet		3152					
Seven Wells (South)		3215					
Amman Koil		3492					
Muthialpet		4532					
Vallal Seethakadhi Nagar		3134					
Katchaleeswarar Nagar		5013					
Basin Bridge	Perambur	5159	71490	Middle	30%	25000	536175000
Vysarpadi (South)		7858					
Vysarpadi (North)		7109					
Perambur (North)		8891					
Perambur (East)		5767					
Perambur (South)		5464					
Thiru-Vi-Ka Nagar		7990					
Elango Nagar		8545					
Wadia Nagar		6184					
Dr.Sathiyavanimuthu Nagar		8523					
Pulianthope	Park Town	3729	29109	Middle	30%	25000	218317500
Dr.Besant Nagar		4599					
Choolai		2575					
Park Town		2435					
Elephant Gate		4153					
Peddunaickenpet		2676					
Perumal Koil Garden		2575					
Thattankulam		4046					
Edapalayam		2321					
Agaram (North)	Purasawalkam	10047	80063	Middle	30%	25000	600472500
Chembium		9687					
Agaram (South)		8230					
Ayanavaram		7659					
Purasawalkam		3429					
Siruvallur		4816					
Nagamaniammaiyar Nagar (North)		5426					
Viduthalai Gurusamy Nagar (South)		6707					
Naganmaniammayar Nagar (South)		4869					
Panneerselvam Nagar		7686					
Maraimalai Adigal Nagar (North)		4922					
Maraimalai Adigal Nagar (South)		6585					
Kolathur	Villivakkam	16923	75585	Middle	30%	25000	566887500
Virugambakkam (South)		10960					
Villivakkam (North)		15453					
Villivakkam (South)		16231					
Virugambakkam (North)		16018					
Anna Nagar (West)	Anna Nagar	10935	92599	High	5%	75000	347246250
Anna Nagar (Central)		7811					
Anna Nagar (East)		7919					
Shenoy Nagar		5325					
Kilpauk (North)		5334					
Kilpauk (South)		6109					
Aminjikarai (East)		5697					
Aminjikarai (Central)		10972					
Aminjikarai (West)		13029					
Periyar Nagar (North)		5463					
Periyar Nagar (South)		5454					
Nungambakkam		5789					
Gangadeeswarar Koil		2762					

Chintadripet		4168					
Chepauk		2732					
Adikesavapuram		4493					
Nehru Nagar	Chepauk	5233	29824	Middle	30%	25000	223680000
Komaleeswaranpet		3715					
Balasubramaniam Nagar		4055					
Thiruvotteeswaranpet		3021					
Dr.Natesan Nagar		2407					
Zam Bazaar		3193					
Thiruvallikeni		3468					
Marina		3458					
Krishnampet		4360					
Bharathi Nagar		4035					
Azad Nagar (North)	Triplicane	3509	36842	Low	50%	5000	92105000
Umarupulavar Nagar		4311					
Bharathi Nagar		4330					
Azad Nagar (South)		2822					
Vivekanandapuram		3356					
Chetpet		4990					
Egmore		3722					
Pudupet		4266					
Anjukam Ammaiyar Nagar		5669					
Kosapet		3814					
Pattalam	Egmore	4040	38706	High	5%	75000	145147500
Anbhazhagan Nagar		3084					
Perumalpet		3592					
Kannappar Nagar		2482					
Dr.Ambedkar Nagar		3047					
Thousand Lights		4898					
Royapettah		3816					
Teynampet		5283					
Ko-Si-Mani Nagar	Thousand Lights	5854	33869	Middle	30%	25000	254017500
Nakkeerar Nagar		6492					
Azhagiri Nagar		3365					
Amir Mahal		4161					
Alwarpet (North)		5968					
Alwarpet (South)		5980					
Vadapalani (West)		7208					
Vadapalani (East)		7140					
Ashok Nagar		7696					
M.G.R.Nagar		5436					
Kamaraj Nagar (North)		5049					
Kamaraj Nagar (South)	T. Nagar	7150	88064	Middle	30%	25000	660480000
Thiyagaraya Nagar		4887					
Sathiyamoorthi Nagar		7905					
Kalaivanar Nagar		5429					
Navalar Nedunchezian Nagar (East)		6833					
Navalar Nedunchezian Nagar (West)		6099					
Rajaji Nagar		5284					
Saligramam		10747					
Kodambakkam (North)	Alandur	10660	33511	High	5%	75000	125666250
Kodambakkam (South)		12104					
Saidapet (West)		9270					
Saidapet (East)		9667					
Kalaignar Karunanidhi Nagar		5636					
Guindy (West)		7003					
Guindy (East)		10466					
Kumaran Nagar (North)	Saidapet	5560	74810	Middle	30%	25000	561075000
Kumaran Nagar (South)		6345					
V.O.C.Nagar		5440					
G.D. Naidu Nagar (East)		8736					
G.D. Naidu Nagar (South)		6687					
Santhome		5465					
Mylapore		4367					
Raja Annamalaipuram		7642					
Adyar (West)		9580					
Adyar (East)		5984					
Bhemmannapet		6328					
Thiruvalluvar Nagar	Mylapore	3921	87793	High	5%	75000	329223750
Madhavaperumal Puram		4502					
Karaneeswarapuram		4507					
Avvai Nagar (North)		5132					
Avvai Nagar (South)		7674					
Velacherry		22691					
Thriuvanmiyur (West)		9804					
Thiruvanmiyur (East)	Tambaram		28673	High	5%	75000	107523750

Chit Funds as an Innovative Access to Finance for Low-income Households

Delhi Market and Residential

Area	Wards	Value of Goods	Type of Market	No. of shops	Chit value per value of goods (Rs.)	Total Chit Value (Rs.)
Jasola		High	retail	100	200000	20000000
Okhla		High	retail	5000	200000	1000000000
Okhla Indl Area	Okhla	High	retail	5000	200000	1000000000
Okhla Indl Estate		High	retail	7000	200000	1400000000
Okhla Vihar		Middle	retail	100	200000	20000000
azadpuradarsh nager	Modeltown	High	wholesale	10000	10000000	100000000000
Dilkhush Bagh Industrial Area		Middle	retail	50	200000	10000000
Ajmere Gate		Middle	retail	500	200000	100000000
Delhi Gate	DARYAGANJ	Low	retail	500	40000	20000000
Kamla Market		Middle	wholesale	1000	3500000	3500000000
Alaknanda	KALKAJI	Low	retail	100	40000	4000000
Amar Colony	LAJPATNAGAR	Middle	retail	100	200000	20000000
Pira Garhi	PEERA GHARI	High	retail	3000	200000	600000000
Sarai Rohilla	ANAND PARBAT	Middle	retail	100	200000	20000000
Hauz Khas		High	retail	200	200000	40000000
Green Park		High	retail	500	200000	100000000
Chuna Mandi		Low	retail	300	40000	12000000
Jhandewalan		Middle	retail	500	200000	100000000
Rani Jhansi Road		Middle	retail	200	200000	40000000
Wazirpur Industrial		High	retail	1000	200000	200000000
Sector 1 Rohini Avantika		Middle	retail	200	200000	40000000
Sanjay Gandhi Transport Nagar	Rohini	High	retail	500	200000	100000000
Naharpur		Low	retail	200	40000	8000000
Rohini Institutiona		Middle	retail	50	200000	10000000
Kashmiri Gate	SUBZI MANDI	High	retail	5000	200000	1000000000
Rajendra Place		Middle	retail	1000	200000	200000000
Bara Hindu Rao	KISHANGANJ	Middle	retail	200	200000	40000000
Khajuri Khas		Low	retail	75	40000	3000000
Patel Nagar	Purvi Patel Nagar	Middle	retail	600	200000	120000000
Bawana	Bawana	Middle	retail	500	200000	100000000
Ina Colony		Middle	retail	500	200000	100000000
Lodhi Road		Middle	retail	500	200000	100000000
South Extension2		High	retail	250	200000	50000000
Sarojini Nagar		Middle	retail	500	200000	100000000
Inderlok		Low	wholesale	100	3000000	300000000
Dhaula Kuan		Middle	retail	100	200000	20000000
Bhikaji Cama Place		Middle	retail	5000	200000	1000000000
Qutab Insti Area		Middle	retail	100	200000	20000000
Bhola Nath Nagar	SEELAMPUR	Low	retail	100	40000	4000000
Chanakya Place		High	retail	100	200000	20000000
Indra Park	UTHAMNAGAR	Low	retail	50	40000	2000000
Jheel Khurenja		Low	retail	80	40000	3200000
Krishna Nagar		Middle	retail	200	200000	40000000
Khyber Pass		Low	retail	100	40000	4000000
Karkarduma	ARJUN NAGAR	Middle	retail	500	200000	100000000
Old Rohtak Road	Shastrinagar	High	retail	200	200000	40000000
Gandhi Nagar	GANDHINAGAR	High	wholesale	8000	10000000	30000000000
Gandhi Nagar 1		High	wholesale	3000	10000000	30000000000
Tilak Marg		High	retail	50	200000	10000000
Tilak Nagar		Low	retail	500	40000	20000000
Nai Sarak		High	retail	5000	200000	1000000000
Sadar Bazar	Sadar Bazar	High	retail	20000	200000	4000000000
Shraddhanand Marg		Middle	retail	1000	200000	200000000
Gharoli Dairy Farm	MAYURVIHAR	Middle	retail	100	200000	20000000
Greater Kailash	GK I	High	retail	500	200000	100000000
Amrit Kaur Market		Middle	retail	150	200000	30000000
Greater Kailash-2	GKII	High	retail	500	200000	100000000
Patparganj Industrial Area		Middle	retail	3000	200000	600000000
Jama Masjid	Jama Masjid	Low	wholesale	250	1000000	250000000
Lajpat Rai Market		High	wholesale	10000	10000000	100000000000
Mori Gate	CHANDNI CHOWK	High	retail	2000	200000	400000000
Chandni Chowk		High	retail	5000	200000	1000000000
Jhangirpuri		Low	retail	250	40000	10000000
Sunder Nagar	Nizamuddin	Middle	retail	100	200000	20000000
Kamla Nagar	KAMLANAGAR	High	retail	5000	200000	1000000000
Karampura	KARAMPURA	Middle	retail	500	200000	100000000
Karol Bagh	JHANDEVALAN	High	retail	10000	200000	2000000000
Pushp Vihar		Middle	retail	50	200000	10000000
Moti Nagar	KIRTHINAGAR	Middle	retail	500	200000	100000000
Najafgarh Road Industrial Area		Middle	retail	500	200000	100000000
Shivaji Marg	RAJOURI GARDEN	Middle	retail	100	200000	20000000
Rani Bagh	SHAKURBASTI	Middle	retail	1000	200000	200000000
Tri Nagar		Low	retail	200	40000	8000000

Wards	Income Level	Household Population	% of household population particapating in unreg CF	Chit Value (lakhs, Rs)	Total Chit Value (lakhs, Rs.)
Okhla	Low	21781	50%	0.1	1089.05
Harkesh Nagar	Low	20980	50%	0.1	1049
Model Town	Low	13906	50%	0.1	695.3
GURGAON	Middle	29461	30%	0.5	4419.15
MINTO ROAD	High	12173	5%	1	608.65
KALKAJI	Middle	15734	30%	0.5	2360.1
Tughlakabad	Middle	22425	30%	0.5	3363.75
YAMUNA VIHAR	Low	16950	50%	0.1	847.5
Dr.AMBEDKAR NAGAR	Low	14095	50%	0.1	704.75
PEERA GHARI	Middle	21761	30%	0.5	3264.15
PREET VIHAR	Middle	24601	30%	0.5	3690.15
Bharat Nagar	Low	15638	50%	0.1	781.9
HAUZ KHAS	Middle	14070	30%	0.5	2110.5
PAHARGANJ	Low	32456	50%	0.1	1622.8
MALAVIYANAGAR	Middle	19856	30%	0.5	2978.4
TRINAGAR	Low	11710	50%	0.1	585.5
ASHOK VIHAR	High	6420.35	5%	1	321.0175
KRISHNANAGAR	Middle	12892	30%	0.5	1933.8
Rohini	Low	57635	50%	0.1	2881.75
SUBZI MANDI	Middle	12652	30%	0.5	1897.8
USMANPUR	Low	16545	50%	0.1	827.25
BADLI	Low	31838	50%	0.1	1591.9
RAMESHNAGAR	Middle	23342	30%	0.5	3501.3
RAJENDER NAGAR	Middle	15797	30%	0.5	2369.55
GTB NAGAR	Low	16673	50%	0.1	833.65
KISHANGANJ	Low	13627	50%	0.1	681.35
KARAWALNAGAR	Low	45479	50%	0.1	2273.95
JANGPURA	Middle	14260	30%	0.5	2139
Mustafabad	Low	26047	50%	0.1	1302.35
Purvi Patel Nagar	High	31485	5%	1	1574.25
Raghubir Nagar	Low	16622	50%	0.1	831.1
JANAKPURI	Middle	20651	30%	0.5	3097.65
SEWANAGAR	Middle	15638	30%	0.5	2345.7
PASCHIM VIHAR	Middle	18589	30%	0.5	2788.35
RK Puram	Middle	18488	30%	0.5	2773.2
	Middle	22116	30%	0.5	3317.4
SAGARPUR	Low	34891	50%	0.1	1744.55
GEETA COLONY	Low	15047	50%	0.1	752.35
NANGLOI	Low	31932	50%	0.1	1596.6
JAFFERABAD	Low	12344	50%	0.1	617.2
CHAHATPUR	Low	22723	50%	0.1	1136.15
BABARPUR	Low	17083	50%	0.1	854.15
DALLUPURA	Low	16050	50%	0.1	802.5
DABRI	Middle	21601	30%	0.5	3240.15

ARJUN NAGAR	High	14341	5%	1	717.05
Subhash Nagar	Middle	16020	30%	0.5	2403
Pratap Nagar	Low	17196	50%	0.5	8598
Trilokpuri	Low	38235	50%	0.1	1911.75
DEOLI	Low	32612	50%	0.1	1630.6
SEEMAPURI	Low	18865	50%	0.1	943.25
SRI NIWAS PURI	Low	18949	50%	0.1	947.45
BURAI	Low	35563	50%	0.1	1778.15
TILAKNAGAR	Low	18226	50%	0.1	911.3
GOKALPUR	Low	25927	50%	0.1	12963.5
MAYURVIHAR	Low	16183	50%	0.1	809.15
GK I	Low	16039	50%	0.1	801.95
GK II	Middle	17790	30%	0.5	2668.5
DILSHAD GARDEN	Middle	22272	30%	0.5	6681.6
KESHEOPUR	Low	21347	50%	0.1	1067.35
NARAINA	Low	19464	50%	0.1	973.2
ADARSHNAGAR	Low	21269	50%	1	10634.5
MANDAOLI	Low	18254	50%	0.1	912.7
BHALSWAJAHANGIRPUR	Low	23194	50%	0.1	1159.7
Shahdara	Low	14408	50%	0.1	720.4
KAMLANAGAR	Low	10725	50%	0.1	536.25
JHANDEVALAN	Low	27409	50%	0.1	1370.45
DEFENCE COLONY	Low	14341	50%	0.1	717.05
Khyala	Middle	12457	30%	0.5	1868.55
Kesaw Puram	Middle	14315	30%	0.5	4294.5
Sultan Pur Majra	Low	18861	50%	0.1	943.05
Madan Gir	Low	16109	50%	0.1	805.45
BADAR PUR	Low	53175	50%	0.1	2658.75
SAKET	Middle	16919	30%	0.5	2537.85
MADIPUR	Low	18008	50%	0.1	900.4
MAHIPALPUR	Middle	29883	30%	0.5	4482.45
VIVEK VIHAR	Low	16950	50%	0.1	847.5
Mangol pur Uttri	Middle	16210	30%	0.5	2431.5
NANGALRAI	Middle	16163	30%	0.5	2424.45
Madhu Vihar	Low	32456	50%	0.1	1622.8
MAHRAULI	Middle	23675	30%	0.5	3551.25
TIMARPUR	Low	16657	50%	0.1	832.85
HASTSAL	Low	35772	50%	0.1	1788.6
JAGATPURI	Low	15303	50%	0.1	765.15
KARAM PURA	High	13156	5%	1	657.8
RAJOURI GARDEN	Middle	14034	30%	0.5	2105.1
SHAKURBASTI	Low	17812	50%	0.1	890.6
SARASWATI VIHAR	Middle	21203	30%	0.5	3180.45
ASHOK VIHAR	Low	11710	50%	0.1	585.5
TAGORE GARDEN	Middle	17536	30%	0.5	2630.4
PITAM PURA	Middle	20031	30%	0.5	3004.65
VASANT VIHAR	High	15155	5%	1	757.75
MAUJPUR	Low	12889	50%	0.1	644.45

References

Anderson Siwan, Baland Jean-Marie, "The Economics of Intra-Household Allocation" August 2002, Vol. 117, No. 3, Pages 963-995

Deaton, Angus and Salman Zaidi, 1998...Method of Constructing Consumption Aggregates for Welfare Analysis, The Development Research Group, World Bank, Washington.

Banerjee, Abhijit, Duflo Esther "The Economic Lives of the Poor" October 2006, Journal of Economic Perspectives, Vol 21, No. 1, Winter 2007, pgs 141-167.

Besley, Timothy, Stephen Coate, and Glenn Loury,"The Economics of Rotating Savings and Credit Associations", American Economic Review, LXXXIII (1993), 792-810.

Besley, Timothy, Stephen Coate, and Glenn Loury "Rotating Savings and Credit Associations, Credit Markets and Efficiency", Review of Economic Studies, LXI (1994), 701-719.

Central Chit Fund Act 1982: http://gov.ua.nic.in/society/acts/hchit.htm

Klonner, Stefan, "Rotating Savings and Credit Organizations as Insurance", mimeo, Yale University, Economic Growth Centrer, (2000).

Kovsted, Jens and Peter Lyk-Jensen, "Rotating Savings and Credit Associations: the Choice Between Random and Bidding Allocation of Funds", Journal of Development Economics, LX (1999), 143-172.

Levenson, Alec and Timothy Besley, "The Anatomy of an Informal Financial Market: Rosca Participation in Taiwan", Journal of Development Economics, LI (1996), 45-68.

Madras Chit Fund Act 1961: http://chitfund.delhigovt.nic.in/madras_chit_funds_act_right.htm

Mullainathan Sendhil "Development Economics through the lens of psychology", working paper, 2006

Rao, Preethi: "Chit Funds: A Boon to Small Enterprises" Institute for Financial Management and Research, Chennai (India), Working Paper Series, January 2007

Reserve Bank of India, Report on Financial Inclusion

Sengupta A, Kannan K.P., Raveendran G., India's Common People: Who Are They, How Many Are They and How do They Live? Economic & Political Weekly, March 15, 2008

S. Radhakrishnan and others: "Chit Funds and Finance Corporations" Institute for Financial Management and Research, Chennai (India), Incorporating the gist of Proceedings of a Seminar on October 4 and 5, 1974