Chapter-5

EMPIRICAL ANALYSIS

The present chapter deals with the empirical analysis of financial inclusion. The analysis has been divided broadly into two sections. Section 5.1 contains the inter-district analysis of the extent of financial inclusion. This is mainly based on the secondary data drawn from RBI (Bank branch statistics) and population data from census 2011. Section 5.2 deals with the analysis which is based on the primary survey of Atail village conducted by me. The analysis is further divided into two parts. Part 5.2.1 looks into, the socio-economic characteristics of the sample households apart from this an attempt has been made to study the relationship between socio-economic attributes such as income, caste, qualification, occupation, age of households and different facets of financial inclusion such as opening of bank accounts and frequency of their use, possession of ATM cards and frequency of their use, purchase of insurance, taking loans, fixed deposits by households. This analysis has been carried out with the help of two-ways tables and percentages and χ^2 – tests. But two-way table can handle relationship between two attributes only and the χ^2 – tests is a non-parametric test. In order to study the influence of more than one socio-economic factors on financial inclusion (measured by opening an account by the household), a binary logistic function has been estimated and the results are contained in section 5.2.2.

5.1 Inter-District Financial Inclusion

The extant of financial inclusion at district level is measured by preparing a composite index, namely Index of Financial Inclusion (IFI) by aggregating three Dimension Indexes: D_1 representing availabilities, D_2 representing penetration and D_3 denoting usage of banking system. In a financial inclusive system, banking services should be easily available to the users. Availability of banking outlets such as bank branches, ATMs, or number of bank employs can be taken as indicators. The number of bank branches per thousand population has been taken as an indicator of availability of financial system. For computation of dimension index the maximum is taken as maximum and zero as minimum. The weight for this index has been taken as 0.5.

Another important indicator of financial inclusion is the penetration of the financial system which can be measured in term of proportion or percentage of banked population. But in the absence such

information, number of bank accounts per thousand population has been taken as the indicator for constriction of penetration index D_2. The weight has been taken as 1 for the penetration index. The dimension of financial inclusion is usage of the financial system. The usage of the banking services can be measured by the ratio of deposit and credit which is available at district level to the district domestic product. But since the information on district level domestic product is not available, amount of deposit plus credit per thousand population has been taken as an indicator of usage of banking system. Maximum figure and zero have been taken as maximum and minimum for computation of usage dimension index. The composite index of financial inclusion has been prepared by aggregating the three dimension indices according to (4.1.2), while dimension indices are prepared according to (4.1.1).

The three dimension indices along with the composite index of financial inclusion are presented in table (5.1). The table also contains the mean, standard deviation and coefficients of variation of these indices. The table shows that in terms of availability of banking services Gurgaon district on the top followed by Panchkula and Mewat district is at the bottom. In respect of penetration of banking services again Gurgoan and panchkula districts are on the top spot followed by Faridabad and Rohtak with Mewat again occupying the last position. As far as usage dimension of financial inclusion is concerned, Gurgoan district is making the maximum use of financial system followed by Panchkula while Mewat district is making the minimum use of financial system. On the basis of the overall index of financial inclusion (IFI), Gurgoan district is enjoying the highest financial inclusion at first place while Faridabad district is at second place and the lowest financial inclusion is in Mewat district. The coefficients of variance of the three dimension indices and that of composite index tell about the extent inter-district disparities of financial inclusion. In terms of availability of financial services, there are disparities to the tune of 45 percent of the mean while in term of penetration, the inter-district disparities are of 35 percent of the mean. The high inter-district disparities are of the order of 110 percent of the mean in case of usage of financial system. In term of overall financial inclusion, the inter-district disparities are of the order of about 36.4 percent of the mean. However, if the three most developed (Gurgoan, Panchkula, and Faridabad) and one least developed Mewat districts are left out, the disparities in the extent of financial inclusion among the remaining 17 districts are drastically reduced as is visible from the last row of table 5.1. It is clear from the table that disparities in financial inclusion in terms of availability,

penetration, usage, and overall financial inclusionreduced to about 21.1, 28.7, 50.2 and 21.2 percent from 45.5, 35.2, 110.2, and 36.4 percent respectively.

Following the classification used by Manidra Sarma (2010), depending on the value of IFI, the districts of Haryana can be classified into three categories, namely, high financial inclusion, medium financial inclusion and low financial inclusion.

1. $0.5 \leq IFI \leq 1$ high financial inclusion.
2. $0.3 \leq IFI \leq 0.5$ medium financial inclusion.
3. $0.0 \leq IFI \leq 0.3$ low financial inclusion.

According to the above criterion, Gurgoan, Panchkula, Ambala, Faridabad, Karnal, Panipat, Rewari, Rohtak, and Yaumna Nagar fall in the first category while, Bhiwani, Fatehabad, Hissar, Jhajjar, Jind, Kaithal, Kurukshetra, Mahandergarh, Palwal, Sirsa and Sonipat fall medium category while the only Mewat district has low financial inclusion. The findings suggest that special efforts should be made to improve financial inclusiveness of households of Mewat district by raising their income and educational qualifications.

The rank of all the 21 districts of Haryana in term of all indices is given in table (5.2). The table reveals that the first three positions are occupied by relatively developed districts of Gurgoan, Panchkula, and Faridabad respectively and the least developed, Mewat gets the last rank. It suggests that there is a link between development and extent of financial inclusion. Exceptional performance of these three districts might attributed to same extent to their being located near big developed cities like Delhi and Chandigarh.

Table: 5.1

Dimensions and Composite indices of Financial Inclusion.

Districts	D_1=w(A-m/M-m)	D_2=w(A-m/M-m)	D_3=w(A-m/M-m)	Composite index
AMBALA	0.29462	1	0.09959	0.63235
BHIWANI	0.16729	0.50069	0.05353	0.38897
FARIDABAD	0.20639	0.94900	0.23820	0.67593

FATEHABAD	0.18086	0.44563	0.03086	0.35190
GURGAON	0.50000	1	0.50000	1
HISAR	0.18839	0.55346	0.12684	0.46070
JHAJJAR	0.18287	0.59269	0.05085	0.44097
JIND	0.14524	0.40434	0.03896	0.31977
KAITHAL	0.16925	0.45019	0.04083	0.35539
KARNAL	0.22173	0.61812	0.12494	0.50713
KURUKSHETRA	0.21747	0.64963	0.06052	0.48606
MAHENDRAGARH	0.14845	0.61827	0.02478	0.42511
MEWAT	0.08383	0.20047	0.01049	0.16201
PALWAL	0.14199	0.40393	0.02485	0.31196
PANCHKULA	0.49082	1	0.22737	0.77714
PANIPAT	0.23453	0.69825	0.09984	0.53665
REWARI	0.21250	0.81279	0.04750	0.53607
ROHTAK	0.27213	0.94814	0.08605	0.61164
SIRSA	0.19884	0.49385	0.04873	0.39381
SONIPAT	0.20260	0.62510	0.08215	0.48097
YAMUNANAGAR	0.22471	0.79795	0.07407	0.55399
Avg	0.223072	0.65536	0.09957	0.49564
Stdv	0.101406	0.23049	0.109702	0.18065
Coeff-var	45.45883	35.16997	110.1768	36.44710

Coeff-var*	21.16644	28.74881	50.02698	21.24037

* Coefficients of variation after excluding the Gurgoan, Faridabad, Panchkula and Mewat districts.

Table: 5.2

Rank of Districts on the basis of Dimension and Composite indexes.

District	Rank on the Basis of D_1	Rank on the Basis of D_2	Rank on the Basis of D_3	Rank on the Basis of composite index
Ambala	3	3	7	4
Bhiwani	17	15	12	16
Faridabad	10	4	2	3
Fatehabad	15	18	18	18
Gurgoan	1	1	1	1
Hisar	13	14	4	12
Jhajjar	14	13	13	13
Jind	19	19	17	19
Kaithal	16	17	16	17
Karnal	7	12	5	9
Kurukshetra	8	9	11	10
Mahendragrah	18	11	20	14
Mewat	21	21	21	21
Palwal	20	20	20	20

Panchkula	2	2	3	2
Panipat	5	8	6	7
Rewari	9	6	15	8
Rohtak	4	5	8	5
Sirsa	12	16	14	15
Sonipat	11	10	9	11
Yumanagar	6	7	10	6

5.2.1 Socioeconomic Factors and Financial Inclusion-Tabular Analysis

The distribution of households by caste and qualification is given in table 5.3 Table shows that majority of household heads belonging to general category are either matriculate (66%) or above matric and graduates (24%). The percentages of illiterates and above graduation are only 6 percent and 3 percent respectively. Similarly, backward caste households are either matriculates (67%) or between matriculates and graduates (25%). There are about 8 percent above graduation and none is illiterate. In case of S.C households, 27 percent are illiterate while matriculates and above matriculation are 54 percent and 19 percent respectively. Conclusion it can be said that majority of household heads possess qualification between matriculation and graduation irrespective of caste. The highest percentage of illiterate and possessing qualification above graduation belong to SC and BC categories respectively.

Table: 5.3

Caste and Qualification Wise Distribution of Respondent Households.

Caste	Qualification				Total
	Illiterate	1- Matric	Matric-BA	Above BA	
Gen	4	41	15	2	62
	(6)	(66)	(24)	(3)	(100)
B.C	0	8	3	1	12
	(0)	(67)	(25)	(8)	(100)
S.C	7	14	5	0	26
	(27)	(54)	(19)	(0)	(100)
Total	11	63	23	3	100

Source: Primary Survey Conducted in June 2011. The values in the brackets are the percentages.

Caste and income wise distribution of households has been presented in table 5.4 The table shows that majority of households that belong to the general (55%) and BC (67%) category are having income (income) between Rs. 5000 to 10000, while the households belonging to the S.C category only 30 percent have income between Rs. 5000 to 10000. Almost equal percentage of households in this category have income uptoRs2500 and between Rs 2500 to 5000 respectively only 19 percent, 17 percent and 11 percent households belonging to general, B.C and S.C categories respectively earn above Rs 15000 per month. In conclusion, the table reveals that the households belonging to the S.C category earn less than those belonging to general and B.C categories as about 90 percent of them earn less than Rs 10000 per month.

Table: 5.4

Caste and Income Wise Distribution of Respondent Households.

Caste	Income					Total
	Up to 2500	2500 to 5000	5000 to 10000	10000 to 15000	Above 15000	

Gen	0	8	34	8	12	62
	(0)	(13)	(55)	(13)	(19)	(100)
B.C.	0	1	8	1	2	12
	(0)	(8)	(67)	(8)	(17)	(100)
S.C.	8	7	8	0	3	26
	(30)	(29)	(30)	(0)	(11)	(100)
Total	8	16	50	9	17	100

Source: Primary Survey Conducted in June 2011. The values in the brackets are the percentages.

Caste wise distribution of households according to their occupation is shown in table 5.5, of the 62 general households, a majority (52%) are engaged in farming and the rest (42) percent are engaged in some time of job. Of 12 B.C households only 8 percent are engaged in farming and rest (92%) in some form of employment of which 67 percent are self-employed. However, in case of S.C category of households about 11 percent earn their livelihood as agricultural labour in contrast to the general and B.C category households none of whom depend on agriculture labour. Regarding employment, 31 percent and 11 percent of S.C households are engaged in self-employment and government job respectively. The percentage of households belonging to general and B.C categories that are serving in the government jobs is 13 and 17 respectively.

Tables: 5.5

Distribution of Respondent Households by Caste and Occupation

Caste	Occupation							Total
	Farming	Agri Labor	Self-Employment	Govt Job	Private Job	Ex Service Man	Any Others	

Gen	32	0	7	8	4	7	4	62
	(52)	(0)	(11)	(13)	(6)	(11)	(6)	
B.C	1	0	8	2	0	1	0	12
	(8)	(0)	(67)	(17)	(0)	(8)	(0)	
S.C	0	11	8	3	1	0	3	26
	(0)	(42)	(31)	(11)	(4)	(0)	(11)	
Total	33	11	23	13	5	8	7	100

Source: Primary Survey Conducted in June 2011. The values in the brackets are the percentages.

The caste wise distribution of households according to the sources of loan is given in table 5.6. The table shows that of the 62 general category households 29 percent do not take any type of loan, while 26 percent and 37 percent households take formal and informal sources respectively. Eight percent households take loan from both the sources. Of the 12 BC households a majority (67%) do not take any type of loan while 8 percent and 17 percent source their loans from formal and non-formal sources respectively. 8 percent of them take loan from both the sources. Out of the 26 household that belong to S.C category 58 percent do not take loans while 4 percent and 38 percent respectively source their loans from formal and informal sources. The table reveals some interesting information. First, a lesser percentage of general households are under debt in comparison to the other two categories and that a higher percentage of general households have an access to the formal sources as compared to the other castes. Second, across the caste categories, a higher percentage of households depend or have access to informal sources in comparison to the formal sources of loan. This suggests that the government should formulate and implement policies in such a way that paves the way for cheaper and easier access to formal sources of loan for the needy.

Table: 5.6

Distribution of Households by Caste and Nature of Loan Source.

Caste	Loan Sources				Total
	Not at All	Formal	Informal	Both	
Gen	18	16	23	5	62
	(29)	(26)	(37)	(8)	
B.C.	8	1	2	1	12
	(67)	(8)	(17)	(8)	
S.C.	15	1	10	0	26
	(58)	(4)	(38)	(0)	
Total	41	18	35	6	100

Source: Primary Survey Conducted in June 2011. The values in the brackets are the percentages.

Table: 5.7

Distribution of Households by Caste and Holding of Account.

Bank Account	Caste			Total
	Gen	B.C.	S.C.	
Yes	57	12	19	88
	(92)	(100)	(73)	
No	5	0	7	12
	(8)	(0)	(27)	
Total	62	12	26	100
	(100)	(100)	(100)	(100)

Source: Primary Survey Conducted in June 2011. The values in the brackets are the percentages.

The distribution of households by caste and holding of account is given in tables 5.7. Out of the 62 general households, 12 B.C households and 26 S.C households, 92 percent of general 100 percent of B.C and 73 percent of S.C households respectively have bank accounts. Thus, B.C households have the highest inclusion rate in the financial system.

Table 5.8 contains the distribution of households by their qualification and opening an account. The table reveals that out of a sample of 100 households 88 households have opened account. Out of these 88 households that have opened account, 25 percent of the illiterate households, 95 percent of those who are matriculates and 100 percent of those households who are qualified upto graduation or above have open accounts. This impliesthat there is positive relationship between level of qualification and opening bank account.

Table: 5.8

Qualification Wise Distribution of Respondents Having Account or Not.

Account	Qualification				Total
	Illiterate	1 - Matric	Matric - BA	Above BA	
Yes	3	56	26	3	88
	(25)	(95)	(100)	(100)	
No	9	3	0	0	12
	(75)	(5)	(0)	(0)	
Total	12	59	26	3	100

Source: Primary Survey Conducted in June 2011. The values in the brackets are the percentages.

Table 5.9 shows an income wise distribution of respondent households having account or not. The table shows that out of 88 households that have opened account, 63 households have income below 10000 per month and 84 % of them have opened account. 9 households have income between 10 to 15 thousand of rupees per month and all of them have opened accounts. Similarly 16 household

earn more than 15000 rupees per month and all of them have opened account. This also shows that income level and opening an account are positively correlated.

The table 5.10 contains the distribution of households by ownership of land and holding of an account. The table shows that out of the 100 sample households, 63 have land ownership, out of whom 92 percent have opened account and out of 37 who do not own land, 81 percent have opened account. The null hypothesis that there is no relationship between the two attributes could not be rejected as the calculated value (2.68) of χ^2 is less than the tabulated value (3.84) at 5 percent level of significance.

Table: 5.9

Income Wise Distribution of Respondents Having Account or Not.

Account	Income Groups			Total
	Below 10 Thousand	10 to 15 Thousand	Above 15 Thousand	
Yes	63	9	16	88
	(84)	(100)	(100)	
No	12	0	0	12
	(16)	(0)	(0)	
Total	75	9	16	100

Source: Primary Survey Conducted in June 2011. The values in the brackets are the percentages.

Table: 5.10

Distribution of Households by Land Ownership and Holding of Account.

Holding of Account	Ownership of Land		Total
	Yes	No	

Yes	58	30	88
	(92)	(81)	
No	5	7	12
	(8)	(19)	
Total	63	37	100

Source: Primary Survey Conducted in June 2011. The values in the brackets are the percentages.

The distribution of households according to age and holding an account is presented in table 5.11. Out of 100 sample household heads, 49 are of age between 20 to 40 years, and 88 % of them have opened account. 38 household heads are between 40-60 years of age and 89 % of them have opened account while 13 households heads are above 60 years of age and 85 percent of have opened account. There does not seem to emerge a perceptible pattern between age of household head and opening an account. The hypothesis of no relation between age of the household and holding of account could not be rejected in view of lower calculated value (.005) than the tabulated value (5.99) of χ^2 at 5 percent level of significance.

Table: 5.11

Age Wise Distribution of Households on Holding Account and Not Holding Account.

Possession of Account	Age			Total
	20-40	40-60	Above 60	
Yes	43	34	11	88
	(88)	(89)	(85)	
No	6	4	2	12
	(12)	(11)	(15)	
Total	49	38	13	100

Source: Primary Survey Conducted in June 2011. The values in the brackets are the percentages

Table: 5.12

Distribution of Households by Income and Frequency of Use of Account.

Frequency of use	Income (Rs)		Total
	Up to 10000	Above 10000	
0 to 6 Times	12	2	14
	(19)	(8)	
6 to 12 Times	48	8	56
	(76)	(32)	
Above 12 Times	3	15	18
	(5)	(60)	
Total	63	25	88

Source: Primary Survey Conducted in June 2011. The values in the brackets are the percentages

Distribution of households by income and frequency of use of account is given in table 5.12. The table shows that out of 100 sample households 88 households have opened account. Out of these 88 households 63 have income upto Rs 10000 per month. Out of these households, 19 percent use their accounts 0 to 6 times and 76 percent use 6 – 12 times and only 5 percent use their accounts for more than 12 times per month. The rest 25 households have income above Rs 10000 per month. Of these 8 percent household use their account 0 – 6 times, 32 percent use 6 – 12 times and 60 percent use their accounts more than 12 times. Thus, it appears that higher the income of the household higher in the frequency of using account.

Household distribution by income and fixed deposit is shown in table 5.13. The table shows that out of a sample of 100 households 75 have income less than Rs 10000 per month and 5 (7%) of them deposit their money in FD while 93 percent do not. While on the other hand, the remaining 25 households earn more than Rs 10000 month and 13 (52%) of them prefer FD while 12 (48%) do not have FD.The hypothesis of no relationship between the two attributes was rejected at 1

percent level of significance as the calculated value (26.15) is greater than the tabulated value (6.64).

Table: 5.13

Income Wise Distribution of Households Having FD or Not.

Have FD	Income		Total
	Below 10 Thousand	Above 10 Thousand	
Yes	5	13	18
	(7)	(52)	
No	70	12	82
	(93)	(48)	
Total	75	25	100

Source: Primary Survey Conducted in June 2011. The values in the brackets are the percentages.

Distribution of households by caste and purchase of insurance policy is given in table 5.14. The table reveals that out of the 100 sample households 62 households belong to general category and 32 (52%) of them purchase insurance policy, 12 belong to B.C category and 7 (58%) of them have purchased insurance. 26 households belong to S.C category and 9 (35%) of them have purchased insurance policy. Thus, the S.C households are seeming to have lesser exposure to the insurance sector in comparison to the other two categories of households.

Table: 5.14

Distribution of Households by Caste and Purchase of Insurance.

Insurance	Caste			Total
	Gen	B.C.	S.C.	
Yes	32	7	9	48

	(52)	(58)	(35)	(48)
No	30	5	17	52
	(48)	(42)	(65)	(52)
Total	62	12	26	100

Source: Primary Survey Conducted in June 2011. The values in the brackets are the percentages.

Table: 5.15

Income Wise Distribution of Households by purchase of Insurance Policy.

Insurance	Income Groups		Total
	Up to 10000	Above 10000	
Yes	27	21	48
	(36)	(81)	(48)
No	47	5	52
	(64)	(19)	(52)
Total	74	26	100
	(74)	(26)	(100)

Source: Primary Survey Conducted in June 2011. The values in the brackets arethe percentages.

Distribution of households by income and purchase of insurance policy has been shown in table 5.15. It can be seen from the table that out of the 100 sample households 74 earn upto Rs 10000 of which 27 (36%) have purchased insurance policy and 26 households earn more than Rs 10000 per month of which 21 (81%) households have purchased insurance policy. The hypothesis of no relationship between income level and purchase of insurance policy by the households was rejected as the calculated value (15.1) of χ^2 is higher than tabulated value (6.6) at 1 percent level of significance. Thus, there is a positive relationship between these two attributes of households.

The table 5.16 contains information regarding the distribution of households according to caste and possession of ATM cards. The table shows that out of 88 sample households that have bank accounts, 57 belong to general category out of which 17 (30%) possess ATM cards. Similarly, out of 12 B.C households 5 (42%) percent have ATM cards and out of 19 S.C households 6 (32%) have ATM cards. It is clear that there is no definite relationship between caste of the household and possession of ATM card by it.

Table: 5.16

Distribution of Households by Caste and Possession of ATM Card.

ATM	Caste			Total
	Gen	B.C.	S.C.	
Yes	17	5	6	28
	(30)	(42)	(32)	
No	40	7	13	60
	(70)	(58)	(68)	
Total	57	12	19	88
	(65)	(14)	(21)	(100)

Source: Primary Survey Conducted in June 2011. The values in the brackets are the percentages.

Distribution of households by qualification and holding of ATM cards is reported in table 5.17. The table shows that out of 88 sample households that have bank accounts, 60 households have studied upto matriculation of which 11 (18%) have ATM cards. 28 households have studied beyond matriculation of which 17 (61%) have acquired ATM cards. This shows that level of qualification and possession of ATM cards by the households are positively related. A null hypothesis of no relationship between qualification and holding of ATM card by households was also tested by applying χ^2 test. Since the calculated value (15.8) was greater than tabulated value (6.6), the null hypothesis was rejected at 1 percent level of significance implying a significant

relationship between the two attributes. Therefore, with the improvement in gross enrolment ratio in higher education should lead to improvement in financial inclusion.

Distribution of households by their income and frequency of use of ATM card is shown in table 5.18. It is clear from the table that out of 28 households that use ATM cards, 12 households have income upto Rs 10000 and 9 (75%) of them use ATM 6-12 times per year while 3 (25%) make use of ATM card more than 12 times a year. Similarly, 16 households per month, out of these households 4 (25%) use ATM card 6-12 times while another 12 (75%) use the ATM cards more than 12 times per year. Thus, it is clear that as the income of households rise the frequency of using ATM cards increases.

Table: 5.17

Distribution of Households by Qualification and Holding of ATM Cards.

Possession of ATM	Qualification		Total
	Up to Matriculation	Above Matriculation	
Yes	11	17	28
	(18)	(61)	
No	49	11	60
	(82)	(39)	
Total	60	28	88

Source: Primary Survey Conducted in June 2011. The values in the brackets are the percentages

Distribution of households by caste and purpose of opening account is given in table 5.19. It can be seen from the table that out of 88 households that have open account, 57 belong to general category and out of them 30 (53%), 12 (21%), 8 (14%) and 7 (12%) households open accounts for the purpose of saving, credit, pension and salary respectively. No general household has opened account for receiving government assistance. Out of the 12 B.C households open 9 (75%) for saving, 2 (17%) for credit 1 (8%) for pension purpose. No B.C household has opened account for

salary and government assistance. Similarly, out of 19 SC households, 14 (74%), 1 (5%), 1 (5%), 1 (5%), and 2 (11%) have opened accounts for the purpose of saving, credit, pension, salary, and government assistance respectively.

Table: 5.18

Distribution of Households by Income and Use of ATM Card.

Frequency of Uses	Income Groups		Total
	Up to 10000	Above 10000	
0-6 Times	0	0	0
	(0)	(0)	(0)
6-12 Times	9	4	13
	(75)	(25)	(46)
Above 12 Times	3	12	15
	(25)	(75)	(54)
Total	12	16	28

Source: Primary Survey Conducted in June 2011. The values in the brackets are the percentages.

Table: 5.19

Distribution of Households by Caste and Purpose of Account.

Purpose of account	Caste			Total
	Gen	B.C.	S.C.	
Saving	30	9	14	56
	(53)	(75)	(74)	(64)

Credit	12	2	1	14
	(21)	(17)	(5)	(16)
Pension	8	1	1	10
	(14)	(8)	(5)	(11)
Salary	7	0	1	8
	(12)	(0)	(5)	(9)
Govt Assistance	0	0	2	2
	(0)	(0)	(11)	(2)
Total	57	12	19	88
	(65)	(14)	(21)	(100)

Source: Primary Survey Conducted in June 2011. The values in the brackets are the percentages.

5.2.2 Socio-economic Factors and Financial inclusion-Binary Logistic Estimates

An important area of interest in the context of financial inclusion is the influence of socioeconomic factors on financial inclusion as these factors constitute the determinants of demand side of the financial inclusion. For the present purpose we treat number of bank accounts as analogous to financial inclusion and analyse the effect of socio-economic factors on the decision of opening a bank account. For this purpose we specify a binary logistic function (4.2.5) and estimated with the help of maximum livelihood method using SPSS software. The estimation terminated at iteration number 9 because parameter estimates changed by less than 0.001.the estimates are as under shown in the table 5.20

Table: 5.20

Maximum Livelihood Estimates of Equation 4.2.5

Variables	β	S.E	Wald	d.f	Sig	Exp(β)

Income	0.001	0.000	5.427	1	.020	1.001
Land	-2.243	1.388	2.613	1	.106	0.106
Education	2.314	1.119	4.281	1	.039	10.118
Age	0.065	0.047	1.907	1	.167	1.067
Constant	-6.248	2.702	5.348	1	.021	0.002

Cox & Snell R-square = 0.31

Nagelkerke R-square = 0.60

-2 Log Likelihood = 36.25

The table shows that the income of households has a significant effect on the odds ratio in favour of opening bank account. Similarly an increase in qualification of a household head has a positive impact on the odds ratio in favour of financial inclusion. Ownership of land, however, has a negative impact on odds ratio, but it is significant only at 10.5 percent level. The age of households head has no significant impact on the odds ratio in favour or against opening the account. In order to know the effect of one unit change in a regresser on the odds ratio, we subtract one from the antilogarithm of the parameter estimate (as reported in the last colum) and multiply by 100 after subtracting one to get the percent effect on the odds ratio. Thus, if there is an increase of Rs. 1000 in the income of the household, the odds ratio in favour of opening account increases by 0.1 percent. While, upward change in the category of qualification, the likelihood of odds ratio in favour of opening an account by a household goes up 9 time higher. Increase of one unit of land owned by a household decreases the livelihood of odds ratio in favour of opening an account by ninety percent. The estimate of, -2 Log livelihood (36.25) is higher than the critical value (13.28) at 1 percent level of significance reject the null hypothesis of zero coefficients of the estimated equation 1-e, Cox and Snell-R^2 and Nagelkerke-R^2 are significantly different from zero.