

A PRIMARY DATA STUDY BASED ON EVIDENCE OF GOVERNMENT SCHEMES OUTREACH FOR FINANCIAL LITERACY AMONG WOMEN IN URBAN INDIA

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Abstract- This paper shares the results of a structured primary survey of financial literacy among women on five key areas of financial literacy: Money Management & Budgeting, Saving & Investment, Debt & Credit Management, Risk & Insurance, and Financial Planning & Goal Setting. Items on the survey are self-assessment items using a Likert scale, objective financial knowledge items and situational judgement multiple choice items. The study was conducted with women respondents randomly selected from different areas across Delhi NCR in January-February 2025, and computed literacy dimension scores, composite scores, and cross-tabulated with age, educational qualification and income level. This paper proposes a specific study on the impact of the three government initiatives to promote financial literacy and government saving schemes – Nai Roshni Programme, SIDBI financial literacy & women's empowerment

projects, Mahila Samman Savings Certificate – on financial awareness and behavior of the respondents. This result demonstrates that there was a measurable difference in the scores of programme-exposed respondents in relation to saving, investing and planning dimensions, especially at the lower income and lower education bands. Financial confidence is low, and the fact that financial decision-making is delegated to male family members is still the primary obstacle. Government, financial institutions and civil society are supported with evidence-based policy recommendations.

Keywords: Financial literacy, financial education of women, primary data, Nai Roshni, SIDBI FL&WE, Mahila Samman Savings Certificate, urban India.

I. INTRODUCTION

Financial Literacy is the ability to comprehend and utilise financial

information to make sound decisions regarding budgeting, saving, investing, insurance and planning. It has come to be recognised as one of the key factors influencing economic well-being. Structural patriarchy, income inequality and cultural norms have limited women's financial agency in India, making the importance of financial literacy particularly relevant. Women's financial choices or lack thereof ripple out over households, impacting children's nutrition, education and long-term productivity. In addition to being able to manage their personal budget, financial literacy empowers them to identify ways to save money during a financial crisis, as Taft et al. (2013) noted, which is especially important for women who are often the ones who carry the load of vulnerability in household finances.

Financial literacy is a conceptual field that extends beyond knowledge. Remund (2010) found five evaluative criteria for financial literacy, which are knowledge of financial concepts, communication ability related to finance, personal financial management, skill-based financial decision making, and effective long-term financial planning (Hastings, Madrian, & Skimmyhorn, 2013). This multiple conception encompasses cognition, behavior, and planning capacities,

which are directly manifested in the 5-dimensional instrument used in the current study. It is important to note that the terms financial education, financial competency, economic capability and economic literacy are used interchangeably in the literature but not necessarily in a cause-and-effect relationship (Zait & Berteau, 2014).

It is a highly agricultural country, with over 50% of the population involved in agriculture and allied activities, and almost 60% of the population living in villages and small towns (Naik, 2012). Financial inclusion is generally seen as a vital instrument for achieving inclusive growth, but the advantages are not equally shared. Since independence, the Government has set financial inclusion as a growth goal and has introduced several financial inclusion initiatives, such as the Pradhan Mantri Jan Dhan Yojana (PMJDY) and Atal Pension Yojana (APY), to expand the formal financial network (Thorat, 2007; Chakrabarty, 2010). Even as financial services expanded, the link between access to financial services and financial competence was not a direct one. Women with bank accounts who are not aware of the concept of compound interest, women with insurance policies who don't understand the difference between term and endowment

insurance policies, and women who contribute to the Employees Provident Fund but do not have a retirement corpus target are still virtually financially illiterate. The statistics show that there is a persistent gender gap: women are 37% of formal account holders, whereas men are 46%, while a large share of the formal account holders, female and male, do not make any transactions in a given month (Mishra et al., 2021).

As consistently found in the literature, women are the ones who are more affected by financial illiteracy. In a multi-country analysis, Bucher-Koenen et al. (2017) found that there is no cognitive difference between men and women in terms of financial literacy measures, but lower financial socialisation and limited market involvement among women is responsible for the difference. Bannier and Schwarz (2018) also revealed that gender and education are interacting significantly, with highly educated women displaying greater financial literacy and more favourable financial wealth outcomes, suggesting that education is a multiplier, not a linear predictor of financial capability. Single women in the developing economies, like India, who have lower education are considered as one of the most financially

vulnerable groups because they face the compound disadvantage of low income of the household, restricted social support and narrow access to formal financial resources (Potrich, Vieira & Kirch, 2018). The political and social aspects of exclusion are also more relevant to women's financial inclusion, which can be linked to access to education and wage discrimination, as women in charge of households will engage in informal finance if they are financially illiterate (Ghosh & Vinod, 2017).

In India, women's financial education has been revolutionised by the introduction of Self-Help Groups and MFI platforms. In a primary study conducted in Bhubaneswar, Odisha, with 100 women in SHG groups, Mishra et al. (2021) identified three key determinants of financial literacy among women: level of education, knowledge about bank and insurance products and household income level. Their factor analysis also revealed that financial inclusion is determined by other complementary yet separate factors: product knowledge, risk tolerance, awareness of insurance schemes, and the availability of bank branches. Most importantly, they discovered that women who belong to SHGs were more financially knowledgeable and financially included, as they had a structured exposure to banking

services, loan management and insurance products. The findings are directly relevant to the urban context of the Delhi NCR region studied here, in which, although people do not live in the countryside, the structural factors driving literacy (education, income and product exposure) function similarly to those in rural areas but with varying intensities and with different modes of delivery.

This study attempts to fill this gap of financial access and financial literacy by doing a structured primary survey with women in the Delhi-NCR area. Evidence-based research is important because it gives detailed information on the nature, extent and determinants of women's financial literacy. The paper builds on the previous studies by analysing the impact of three specific government interventions on the financial literacy outcomes of the targeted population of the respondents: Nai Roshni Programme, FL&WE projects of the Small Industries Development Bank of India (SIDBI), and Mahila Samman Savings Certificate. This policy-level analysis offers new empirical knowledge about the on-the-ground effect of policy instruments aimed at improving women's financial skills and security.

1.1 Research Objectives

1. To assess the financial literacy of 120 women on five dimensions by a structured questionnaire.
2. To calculate Likert composite scores, MCQ scores, and to categorize respondents into literacy bands.
3. To explore differences in financial literacy through age, education and income level.
4. To evaluate the effect of the exposure on the financial literacy outcomes related to Nai Roshni, SIDBI FL&WE and MS-SC.
5. To identify the main barriers to women's financial literacy and make evidence-based recommendations.

II. REVIEW OF LITERATURE

Lusardi and Mitchell (2011, 2014) laid the groundwork to measure financial literacy globally, showing that women do not differ from males in their cognitive abilities but instead have systematically lower levels of financial socialization and market participation, reflected on compound interest and inflation and risk diversification items. Their 'Big Three' test of three questions indeed serves as the standard for comparative international studies and is directly reflected in this survey's MCQ design. In parallel with this, Karakurum-

Ozdemir, Kokkizil, and Uysal (2019), also showed that financial literacy is different in the developing countries depending on demographic characteristics such as gender, age, marital status, income, occupation, and level of education, which is consistent with the structure adopted in this study. The study was also carried out in Azerbaijan, and it was found that the level of financial literacy varies significantly depending on these socio-demographic characteristics (Nurkhodzha and Matanat, 2021).

The OECD/INFE (2011) core questionnaire and the Atkinson and Messy (2012) Pilot Study across 14 countries agreed that insurance and investment knowledge is the area most vulnerable to the gender gap. Huston (2010) proposed that financial knowledge and financial behaviour should be differentiated; in this study, this was done using a dual Likert/MCQ format. Debt literacy was described as a specific kind of literacy, as a vulnerable aspect of women's lives, by Remund (2010), who asserted that women's vulnerability to predatory lending makes credit knowledge a particular form of vulnerability. Huston (2010) also described the scope of financial literacy as the ability to manage and diversify financial resources — including repaying loans, making investment choices and making instalment

payments — to serve as indicators of functional financial literacy.

2.1 Financial Inclusion as a Precondition and Outcome of Financial Literacy

Financial inclusion and financial literacy are strongly interconnected, but there are important differences between them, and their interplay is of high policy relevance. Financial inclusion is defined as everyone's access to and use of formal financial services, including savings accounts, credit, insurance, payments and pensions (Thorât, 2007). Financial literacy, on the other hand, is the knowledge and skills required to effectively utilise these services. Based on the evidence of Grohmann, Klühs and Menkhoff (2018), it was found that across countries, there is evidence of a measurable impact of financial inclusion on improved financial literacy, especially in developing countries where informal finance is a major component. Demirguc-Kunt and Klapper (2013) also found that it is not account ownership, but account usage that is the relevant measure of financial inclusion, which is particularly relevant in India where many Jan Dhan accounts are dormant.

Mishra et al. (2021) operationalised this difference in their factorial analysis of Indian SHG women, which resulted in two

factors: financial literacy (education, awareness of bank products, insurance products) and financial inclusion (knowledge of financial products, risk perception, availability of insurance scheme, penetration of financial institutions). When they combined their factor analysis, they found that there were four factors that collectively encompass women's financial capability: awareness of banking facilities, familiarity with different payment methods, access to lending facilities, household income, and insurance/risk perception. Financial inclusion has proven to be a methodological challenge to measure: the Inclusix framework by CRISIL (2015) relied on three composite indicators, namely the penetration of branches, credit and deposit; Beck, Demircuc-Kunt and Martinez Peria (2005) highlighted payments, credit services and ATM access as key components of financial outreach.

One of the most important individual factors affecting not only financial inclusion but also financial literacy is gender, which is well documented by Soumaré, Tchana Tchana and Kengne (2016). According to Swamy (2016), financial inclusion positively affects poor households, especially for women-headed households, if financial services are accessible and

understandable. This was further explored by Cabeza-García, Del Brio and Oscanoa-Victorio (2019), who found that women's financial inclusion leads to inclusive economic growth at the macro level and that it has positive multiplier effects on children's education and food security for households. It is also important to highlight that women with financial awareness make more significant contributions to the well-being of their households and are more involved in household financial decision-making (Swamy, 2016), thus supporting women-centred financial literacy interventions.

2.2 Factors that Affect Financial Literacy: Education, Income and Household Factors

The level of education continues to be the most consistent variable across geographies identified as a key determinant of financial literacy. Kimiyaghalam and Safari (2015) found that in a developing country like India, there is a non-linear relationship between education and financial literacy – every extra year of schooling brings smaller but still positive increases in financial knowledge and skills. Isiorhovoja et al. (2020) established that education level is an important factor that affects savings behaviour, where a higher education level is

associated with higher savings discipline and goal-oriented saving. However, it is not necessarily assumed that an educated person is financially literate: the OECD questionnaire on financial literacy suggests that it takes different skills to be financially literate in different areas, such as savings, expenditure management, and household budgeting, in addition to education.

The household income and family income are important secondary factors. Women in the lowest household income bands were also the least likely to use savings products, insurance or investment instruments, with lower personal income also being a factor, as found by Potrich et al. (2018). This was further supported by Mishra et al. (2021), who found in their factor analysis conducted for women's financial literacy in Indian SHG that household income and family income were the third main factor. This income-literacy gradient also plays out in terms of access to information; women in higher income groups have more access to financial media, employer-provided financial education and professional financial advisors, providing compounding benefits for women in higher income bands compared to those in lower income bands.

2.3 SHGs, Microfinance, and Structured Financial Education

Amongst the various structural forms, Self-Help Groups are one of the most effective that have been developed to simultaneously increase financial literacy and increase financial inclusion for women in India. In the study conducted by Mishra et al. (2021), in Bhubaneswar, women in SHGs were also financially literate, especially being able to identify insurance products, and financially included, particularly by avoiding loans from informal money-lenders, which women in the SHGs explicitly reported having learned through peer learning in the SHG environment. The SHG model also showed that knowledge is not only transferred through formal education, but also by observing the financial behaviours and the use of products of others, a finding which is of crucial importance for the design of urban programmes.

The RBI's National Strategy for Financial Education 2020-2025 identifies women as the highest priority segment to be served, given evidence from the Global Findex 2021 that the gender gap in account ownership is reducing, but the gaps in financial product usage remain large. According to NABARD's All India Rural Financial Inclusion Survey (2021), less than 12% of

the women respondents in the rural areas had received formal financial education training. The situational judgement MCQs were theoretically grounded in Klontz et al. (2011), who found that scores on money scripts – deeply held financial beliefs, many of which are not conscious – are more predictive of financial behaviour than knowledge scores. This paper (Sakariya, 2014) calls for the convergence of service providers, policymakers, public administrators and regulators, i.e. for systemic action, because of the importance of achieving sustainable long-term inclusive growth.

A systematic study of the financial education initiatives of the government toward women in India has started, but it is in an early stage of development. Buvinic and Furst-Nichols (2016) conducted a review of 38 women's empowerment economic programmes in the world and determined that the best and most enduring results occurred when financial education was coupled with access to savings products. Nair (2018) and Singh (2020) conducted a study of the Nai Roshni Programme (Ministry of Minority Affairs, 2012-ongoing) and observed that scores of basic financial knowledge and household budgeting for minority women participants

improved, but increased scores for the items related to investment and insurance were less pronounced. SIDBI's financial literacy and financial knowledge (FL&WE) assessments (2019 and 2022) found that financial literacy training combined with financial education and awareness for clients of microfinance institutions (MFIs) is directly related to improved savings regularity and awareness of loan costs. SIDBI's financial literacy and knowledge (FL&WE) assessments (2019 and 2022) showed that combining financial education and awareness with credit access has a direct impact on the regularity of savings and awareness of loan costs among MFI clients. The Mahila Samman Savings Certificate, which was introduced in the Union Budget 2023–24, has not yet undergone a comprehensive impact evaluation but has been well-received by women who have opened post office accounts, and can help measure the impact level of awareness in the upcoming survey.

III. RESEARCH INSTRUMENT

3.1 Questionnaire Structure

The study used a questionnaire, which is a 33-item dual-format instrument. Sections A through E comprise five Likert-scale

dimensions, each containing five self-assessment statements rated on a 1–5 scale (1 = Strongly Disagree, 5 = Strongly Agree). The last section (F & G) contains a total of five and three MCQs, which help in testing

the objective financial knowledge and situational financial judgement of the respondents. The instrument is structured as follows:

Table 1: Survey Questionnaire Structure

Section	Dimension	Format	Items	Max Score	Source Framework
A	Money Management & Budgeting	Likert 1–5	5	25	Lusardi & Mitchell (2011); OECD/INFE (2011)
B	Saving & Investment	Likert 1–5	5	25	Lusardi & Mitchell (2014); Huston (2010)
C	Debt & Credit Management	Likert 1–5	5	25	Huston (2010); Remund (2010)
D	Risk & Insurance	Likert 1–5	5	25	OECD/INFE (2011); Chen & Volpe (1998)
E	Financial Planning & Goal Setting	Likert 1–5	5	25	Lusardi & Mitchell (2014); GoI (2023)
F	Financial Knowledge	MCQ	5	5	Mandell (2008); Atkinson & Messy (2012)
G	Financial Behaviour (SJT)	MCQ	3	3	Klontz et al. (2011); Chen & Volpe (1998)
—	TOTAL	—	33	133	—

3.2 Reliability

A pilot study was conducted on 15 respondents, and the reliability was checked using Cronbach’s Alpha. The values were 0.88 (overall), and the section alphas ranged from 0.79 (Section D) to 0.86 (Section B), which was greater than the threshold of 0.70. In addition, MCQ items were evaluated for item-difficulty index and point-biserial correlation; all items fell within acceptable psychometric ranges (p-values 0.30–0.72; r-biserial > 0.25).

IV. RESEARCH METHODOLOGY

4.1 Research Design

The study adopted a descriptive and analytical cross-sectional design. The study uses structured questionnaires, supplemented by a supplementary module (see Section 6), capturing respondents' awareness of and participation in three government programmes: “Nai Roshni, SIDBI FL&WE, and Mahila Samman Savings Certificate”.

4.2 Sample Design

The study uses stratified purposive sampling across age, education, and income strata proportionate to the estimated composition

of working-age women in Delhi NCR (Census 2011 projections). The final sample after excluding missing data was $n = 120$.

Table 2: Sample Profile ($n = 120$)

Stratum	Category	N	% of Sample
Age	18 – 25 years	28	23.3%
Age	26 – 35 years	35	29.2%
Age	36 – 45 years	30	25.0%
Age	46 – 60 years	27	22.5%
Education	Up to Higher Secondary	22	18.3%
Education	Graduate	58	48.3%
Education	Post-Graduate & above	40	33.3%
Income	Below ₹15,000 / month	24	20.0%
Income	₹15,001 – ₹35,000	42	35.0%
Income	₹35,001 – ₹60,000	34	28.3%
Income	Above ₹60,000	20	16.7%
Marital	Single / Unmarried	44	36.7%
Marital	Married	68	56.7%
Marital	Widowed / Separated	8	6.7%

4.3 Data Collection

Questionnaires were administered, and a trained research assistant supervised each session. For respondents with lower literacy, the supplementary government-scheme module asked three yes/no awareness questions and, for aware respondents, a 5-point Likert self-assessment of how much the scheme had improved their financial knowledge or savings behaviour.

Table 3: Distribution by Literacy Band ($n = 120$)

Literacy Band	Score Range (/125)	n	% of Sample	Mean MCQ (/8)
Low	25 – 49	18	15.0%	2.1

V. DATA ANALYSIS AND FINDINGS

5.1 Overall Composite Score Distribution

The mean composite Likert score was 71.6/125 (SD = 14.2), placing the average respondent in the Moderate literacy band. The mean MCQ score was 4.1/8 (SD = 1.6). Table 5 shows the full distribution across literacy bands.

Moderate	50 – 74	62	51.7%	4.0
Proficient	75 – 99	34	28.3%	5.4
Advanced	100 – 125	6	5.0%	7.2

The data shows that 51.7% respondents fall in the Moderate band, which shows functional but inconsistent financial competency. Only 5% reached the Advanced band. In addition, the consistent co-movement of Likert composite and MCQ scores across bands validates the construct coherence of the instrument.

Section A (Money Management, 17.3/25) was the strongest dimension, reflecting that budgeting and expense-tracking behaviours are relatively established. Section B (Saving & Investment, 15.8/25) masks a significant awareness-action gap: respondents understand the concept of saving more than they actively invest

5.2 Section-Wise Mean Scores

Table 4: Section-Wise Mean Scores (n = 120)

Section	Dimension	Mean (/25)	SD	% Score	Band
A	Money Management & Budgeting	17.3	3.4	69.2%	Moderate–High
B	Saving & Investment	15.8	4.2	63.2%	Moderate
C	Debt & Credit Management	14.6	4.5	58.4%	Moderate–Low
D	Risk & Insurance	12.7	4.8	50.8%	Moderate–Low
E	Financial Planning & Goal Setting	11.4	5.1	45.6%	Low–Moderate
—	COMPOSITE TOTAL	71.8	14.2	57.4%	Moderate

Sections C (Debt, 14.6) and D (Insurance, 12.7) showed moderate-to-low scores, with Section D's SD of 4.8 signalling wide variance — a small subset holds strong insurance knowledge while the majority does not. Section E (Financial Planning,

11.4/25, 45.6%) registered the lowest score — a critical finding, as inadequate long-term planning has the most severe lifetime consequences for women's financial security.

5.3 Item-Level Analysis

Table 5: Selected Item-Level Mean Scores (n = 120)

Q#	Item Summary	Sec.	Mean (/5)	Implication
Q1	Prepare a written monthly	A	3.82	Strong — habitual budgeting

	budget			established
Q3	Know the available money after bills	A	3.56	Moderate — partial cash-flow awareness
Q5	Set aside emergency fund	A	3.14	Moderate — emergency saving inconsistent
Q6	Regularly save a fixed portion of income	B	3.68	Moderate-high — saving habit exists
Q7	Understand compound interest	B	3.41	Moderate — conceptual gap exists
Q8	Invest in mutual funds / stocks / bonds	B	2.38	Weak — low actual investment participation
Q10	Apply diversification to savings/investments	B	2.12	Weak — diversification widely misunderstood
Q11	Understand good debt vs. bad debt	C	3.27	Moderate — conceptual distinction recognised
Q13	Know credit score and what affects it	C	2.67	Below average — credit awareness limited
Q15	Keep debt repayment below 40% of income	C	2.93	Moderate — debt-ratio awareness partial
Q16	Hold adequate life insurance for dependants	D	2.55	Weak — insurance coverage gaps significant
Q18	Understand insurance policy key terms	D	2.74	Moderate — partial policy comprehension
Q20	Understand term vs. endowment insurance	D	2.19	Weak — product literacy very low
Q22	Contribute regularly to retirement scheme	E	2.44	Weak — retirement saving under-practised
Q23	Have a written 5-year financial plan	E	1.98	Very weak — formal planning near absent
Q24	Consider tax implications in decisions	E	2.68	Moderate — partial tax awareness
Q25	Consult a qualified financial adviser	E	2.11	Weak — low uptake of professional advice

Q23 of the questionnaire recorded the lowest mean of all 25 Likert items (1.98/5). Q10 at 2.12/5 and Q20 at 2.19/5 identify investment complexity and insurance product literacy as the most critical knowledge gaps for this population.

5.4 MCQ Analysis (Sections F and G)

Table 6: MCQ Correct-Answer Rates and Knowledge Gaps (n = 120)

Q#	Topic Tested	% Correct	Key Gap Identified
Q26	Compound interest calculation (₹10k @ 10%, 7 yrs)	48.3%	The majority apply the simple interest formula
Q27	Definition of inflation risk	67.5%	Moderate knowledge; some confusion with

			bank/credit risk
Q28	AAA bond: yield vs. risk	41.7%	Higher credit rating incorrectly associated with higher yield
Q29	NOT a feature of SIP	52.5%	Many believe SIPs offer guaranteed returns
Q30	Section 80C deduction limit	58.3%	Confusion between ₹1 lakh and ₹1.5 lakh thresholds
Q31	Best use of ₹50,000 bonus (situational)	61.7%	Many chose savings account over debt repayment first
Q32	Flat rate vs. reducing balance: which loan cheaper	29.2%	Most unaware of EAR concept — highest vulnerability item
Q33	Income drops 30%: first priority	73.3%	Strongest MCQ result; essentials-first logic understood

The Q32- The EAR loan comparison is the most concerning MCQ result at 29.2% correct. This gap directly enables predatory lending: a woman who picks Loan A (12% flat) over Loan B (14% reducing) based on the nominal rate will pay substantially more. Q26 (compound interest, 48.3% correct) authorises the classic financial literacy

outcome that the mechanism of compounding are poorly understood. Q33 (income shock response, 73.3%) is encouraging, crisis intuition exceeds theoretical knowledge, but Q31 (bonus allocation, 61.7%) shows that the debt-avalanche principle.

5.5 Scores by Educational Qualification

Table 7: Financial Literacy by Education Level

Education Level	n	Mean Likert (/125)	Mean MCQ (/8)	% in Moderate+ Band
Up to Higher Secondary	22	53.4	2.8	54.5%
Graduate	58	70.2	4.0	82.8%
Post-Graduate & above	40	88.7	5.6	97.5%

The results show that education is the strongest predictor of financial literacy. Post-graduates scored 88.7/125 (Proficient band); 35 points above the lowest-education group (53.4/125, Low-Moderate band). Critically, the MCQ gap (2.8 vs. 5.6) confirms that the education covers the

objective of financial knowledge. Approximately all post-graduates (97.5%) fall in the Moderate or above band, compared to barely half of less-educated respondents.

5.6 Scores by Income Group

Table 8: Financial Literacy by Income Group

Monthly Income	n	Mean Likert (/125)	Sec. D (/25)	Sec. E (/25)	MCQ (/8)
Below ₹15,000	24	54.6	9.4	8.7	2.9
₹15,001–₹35,000	42	68.3	11.8	10.6	3.8
₹35,001–₹60,000	34	78.9	14.2	13.1	4.9
Above ₹60,000	20	96.4	18.6	17.8	6.4

The Income is related to financial literacy, with the largest gaps found in Sections D (Risk and Insurance) and Section E (Financial Planning). This more than doubling of scores in Sections D and E among the richest and poorest income quintiles not only represents higher usage of

products but also greater access to professional advice on financial planning. But the results also highlight the need for specific intervention programs for poorer women, given their vulnerability in light of their weak performance in Sections D and E.

5.7 Scores by Age Group

Table 9: Financial Literacy by Age Group

Age Group	n	Mean Likert (/125)	Sec. E (/25)	MCQ (/8)
18 – 25 years	28	64.2	10.3	4.2
26 – 35 years	35	76.1	13.6	4.6
36 – 45 years	30	72.8	11.8	3.9
46 – 60 years	27	68.3	10.1	3.5

The group 26–35 surpasses all others in their scores for both the Likert composite (76.1/125) and the section E Financial Planning (13.6/25) tests because of the fact that retirement planning starts in this age bracket. Group 36–45 shows a decline in scores in both cases because of the career

interruption theory, as well as the caretaking period is mostly seen in this decade. Low MCQ scores (3.5/8) of groups 46–60 indicate the fact that experience alone cannot bring financial knowledge.

5.8 Self-Reported Barriers

Table 10: Self-Reported Barriers to Financial Literacy

Barrier	% Selecting	Rank
Low confidence in understanding financial concepts	68.3%	1
Financial decisions managed by spouse / male family member	57.5%	2
Complexity and jargon of financial products	54.2%	3
Lack of time due to caregiving / household	49.2%	4

responsibilities		
No access to financial education programmes or courses	43.3%	5
Fear of making wrong financial decisions or losing money	40.8%	6
Income too low — little to manage or invest	36.7%	7
Financial information not available in preferred language	29.2%	8
Distrust of financial institutions or advisors	25.5%	9

Low financial confidence (68.3%) ranks highest among all obstacles, surpassing even structural obstacles, such as low access and low income. This is by far the biggest result with implications for public policies. It means that no matter what measures are taken in terms of providing people with financial information and giving access, without building confidence in women, little progress will be achieved. The 57.5% of respondents who leave their finances under the control of men cannot be called financially unaware; they were just discouraged from managing financial affairs.

VI. EFFECTS OF GOVERNMENT INTERVENTIONS ON FINANCIAL LITERACY LEVELS

The table below shows data obtained from an additional module in the questionnaire. For each intervention programme, the awareness rate, participation rate and mean

compared among the exposed and unexposed groups to estimate literacy effects.

6.1 Nai Roshni Programme — Ministry of Minority Affairs, Government of India

The Nai Roshni Programme ('New Light') was launched by the Ministry of Minority Affairs in 2012–13 to empower women from minority communities through leadership training, legal literacy, financial literacy, and awareness of government schemes. Delivered through Non-Governmental Organisations (NGOs) across the country, the programme targets women aged 18–65, with specific modules on bank account opening, savings habits, avoidance of informal moneylenders, and awareness of government savings schemes. By 2022–23, the programme had reached over 3.4 lakh women across 28 states. While Nai Roshni's primary mandate is leadership and social empowerment, the financial literacy module — covering budgeting, savings account usage, and awareness of insurance and

pension schemes — makes it directly relevant to this study's dimensions.

Awareness and Participation in the Sample

In the current sample of 120 women, 34 respondents (28.3%) reported awareness of

30, 26.7%), consistent with the programme's targeting of economically disadvantaged women.

the Nai Roshni Programme, while 19 (15.8%) had directly participated in a Nai Roshni programme session. The participation can be seen in two strata: (i) the below-₹15,000 income group (10 of 24 respondents, 41.7%) and (ii) the 36–45 age group (8 of

Table 11: FLAS Scores — Nai Roshni Participants vs. Non-Participants

FLAS Dimension	Participants (n=19) Mean (/25)	Non-Participants (n=101) Mean (/25)	Difference	Largest Impact
A — Money Management & Budgeting	19.8	16.9	+2.9	✓ Significant
B — Saving & Investment	16.4	15.6	+0.8	Marginal
C — Debt & Credit Management	16.1	14.3	+1.8	Moderate
D — Risk & Insurance	13.4	12.5	+0.9	Marginal
E — Financial Planning & Goal Setting	13.1	11.1	+2.0	Moderate
MCQ Score (/8)	4.9	4.0	+0.9	Moderate

Nai Roshni participants scored meaningfully higher on Section A (Money Management, +2.9 points) and Section E (Financial Planning, +2.0 points) compared to non-participants. The budgeting and household cash-management components of the programme seem to have carried over directly to increases in behavioural scores on budgeting and tracking expenses (Q1–Q4) and saving for emergencies (Q5). The Section E gain is significant, with participants being more likely to have

financial goals (Q22) and to make contributions to retirement schemes, perhaps because of awareness of government schemes created during the programme's awareness module. Gains on Section B (Saving & Investment, +0.8) and Section D (Insurance, +0.9) were more modest than expected, given that this programme focuses on fundamental financial literacy rather than investment or insurance product knowledge. The objective financial knowledge increased by an average of 0.9 points, or about one

correct answer, per person due to Nai Roshni's exposure, as indicated by the MCQ improvement. Moreover, all of the gains were highest for the group earning less than ₹15,000, indicating that the programme is directly reaching and bringing tangible benefits to its target groups.

6.2 SIDBI Financial Literacy & Women's Empowerment (FL&WE) Projects

Since 2016, the Small Industries Development Bank of India (SIDBI) has been undertaking a series of Financial Literacy & Women's Empowerment (FL&WE) projects in collaboration with the United Nations Capital Development Fund (UNCDF) and various microfinance institutions (MFIs) with women microfinance clients as the target group. The FL&WE model is unique in the sense that financial education is provided in conjunction with credit, with the understanding that financial education is more effective when people are exposed to both financial education and financial products at the same time. The programme

includes content on loan interest (flat vs. reducing balance), SIPs and recurring deposits, awareness of credit score and products identification of insurance products. In 2023-24, SIDBI's FL&WE projects had touched 2.1 lakh women in Delhi NCR and the other 10 states with microfinance loans.

Awareness and Participation in the Sample

Of the 120 respondents, 41 (34.2%) knew about the financial literacy activities undertaken by SIDBI and 26 (21.7%) had availed of financial literacy directly, usually through their MFI partner that provided FL&WE training. The programme's highest participation rates were in the income range of ₹15,001 to ₹35,000 (14 out of 42, 33.3%) and among women with a graduate education level (16 out of 58, 27.6%), indicating that the programme is targeting low-middle income, moderately educated women who are active in the microfinance market.

Table 11: FLAS Scores — SIDBI FL&WE Participants vs. Non-Participants

FLAS Dimension	FL&WE Participants (n=26) Mean (/25)	Non-Participants (n=94) Mean (/25)	Difference	Impact Level
A — Money Management & Budgeting	18.1	17.0	+1.1	Marginal

B — Saving & Investment	17.6	15.3	+2.3	✓ Significant
C — Debt & Credit Management	17.4	13.9	+3.5	✓✓ Strong
D — Risk & Insurance	14.2	12.3	+1.9	Moderate
E — Financial Planning & Goal Setting	13.3	11.0	+2.3	✓ Significant
MCQ Score (/8)	5.4	3.8	+1.6	✓✓ Strong

SIDBI FL&WE participants show the most pronounced gains of any programme group in this study. The impact most clearly seen in this section is in Debt & Credit Management (+3.5 points), which can be directly traced back to the programme's core curriculum on loan cost calculation, EAR awareness, and credit score literacy. This is the lowest dimension of the overall sample (14.6/25) and increases to 17.4/25 when students participate in FL&WE and approaches the Proficient level.

This MCQ score gain of +1.6 points (almost two additional correct answers) is the highest knowledge gain achieved by any programme in this study. Importantly, participants in FL&WE had a correct-answer rate of 61.4% for Q32 compared to 29.2% for the full sample, confirming that the EAR module directly addresses the most impactful MCQ gap. The gains in Section B (Saving & Investment, +2.3) and Section E (Financial Planning, +2.3) are the result of the financial goal setting and SIP education portions of the FL&WE curriculum. Section

D (Insurance, +1.9) demonstrates moderate improvement, similar to the relatively narrow scope of the programme on insurance product details, beyond awareness of the insurance concept of risk management.

The results obtained provide a solid empirical argument for the FL&WE integration model, which is based on financial education and credit access. The co-delivery model seems to have better results than awareness-only models because the knowledge is being learned in the context of respondents' actual financial decisions.

6.3 Mahila Samman Savings Certificate — Ministry of Finance, Government of India

The Government of India, Ministry of Finance, has launched the Mahila Samman Savings Certificate Scheme. The Mahila Samman Savings Certificate Scheme was launched by the Government of India, Ministry of Finance. In the Union Budget 2023-24, the government has introduced a

one-time small savings scheme for women and girls called the Mahila Samman Savings Certificate (MSSC). This scheme provides a fixed interest of 7.5% per annum (compounded Quarterly) for deposits of up to Rs. 2 lakhs with a tenure of two years, with the option of partial withdrawals after 6 months. Available through post offices and designated public sector banks, the MSSC was positioned as a secure, government-guaranteed, high-interest savings vehicle for women who are risk-averse or have limited access to market-linked investment products. The scheme's accessibility — requiring only a post office or bank account, with a minimum deposit of ₹1,000 — makes it particularly relevant for lower-income women. While the scheme was open only

until March 2025, its introduction generated substantial awareness campaigns through India Post, banks, and media, creating an opportunity to assess awareness and savings-behaviour impacts.

Awareness and Participation in the Sample

Awareness of the Mahila Samman Savings Certificate was the highest of any programme tested, with 72 respondents (60.0%) reporting familiarity. Actual investment in the scheme was reported by 31 respondents (25.8%). Awareness was highest among the 26–35 age group (22 of 35, 62.9%) and graduate-educated respondents (36 of 58, 62.1%), reflecting the scheme's prominence in mainstream and social media.

Table 12: FLAS Scores — MSSC-Aware vs. MSSC-Unaware Respondents

FLAS Dimension	MSSC-Aware (n=72) Mean (/25)	MSSC-Unaware (n=48) Mean (/25)	Difference	Impact Level
A — Money Management & Budgeting	17.6	16.7	+0.9	Marginal
B — Saving & Investment	17.1	14.0	+3.1	✓✓ Strong
C — Debt & Credit Management	14.7	14.4	+0.3	Negligible
D — Risk & Insurance	12.9	12.4	+0.5	Negligible
E — Financial Planning & Goal Setting	12.8	9.4	+3.4	✓✓ Strong
MCQ Score (/8)	4.6	3.3	+1.3	✓ Significant

The Mahila Samman Savings Certificate shows its largest impact on Section B (Saving & Investment, +3.1 points) and Section E (Financial Planning, +3.4 points) — both among the most critical dimensions for women's long-term financial security. MSSC-aware respondents were significantly more likely to report regular saving of a fixed income portion (Q6), to understand compound interest (Q7), and to contribute to a retirement scheme (Q22), indicating greater knowledge of the scheme led to greater overall knowledge of and attitudes toward savings and planning concepts.

The net advantage is more dramatic on the section E gain (3.4 points) with MSSC-aware respondents achieving a score of 12.8/25 vs 9.4/25 for those unaware (a 36% relative improvement on the dimension with the lowest average sample performance). This means that a widely advertised, easily accessible, and assured savings product can help to engage the interest of women in more comprehensive financial planning, even if they are not investing in that product. Due to the scheme's single product focus and the lack of debt or insurance products in

its respective awareness campaigns, negligible differences between aware and unaware groups (< 0.5 points) can be observed in sections C (Debt) and D (Insurance). The +1.3-point improvement in the MCQs among the MSSC-aware respondents is primarily in Q26 (compound interest) and Q30 (Section 80C deductions) which are features of the scheme that are promoted through financial education material, which focuses on interest calculation and taxation of saving instruments.

Among actual MSSC investors (n=31), Section B and E scores were even higher (B: 18.4/25; E: 14.1/25), suggesting that the act of investing in the scheme — rather than mere awareness — produces a further uplift in savings and planning behaviour. This participation effect is consistent with behavioural finance evidence that ownership of a financial product increases engagement with and knowledge of that product category.

6.4 Cross-Scheme Comparative Summary

Table 13: Cross-Scheme Impact Comparison

Programme	Reach in Sample	Strongest Impact Dimension	Mean Composite Gain	MCQ Gain	Overall Assessment

Nai Roshni	19 participants (15.8%)	Money Management (+2.9)	+5.6 pts	+0.9 pts	Moderate — breadth across A & E
SIDBI FL&WE	26 participants (21.7%)	Debt & Credit (+3.5)	+9.2 pts	+1.6 pts	Strong — targeted knowledge gains
Mahila Samman S.C.	72 aware (60.0%)	Financial Planning (+3.4)	+8.3 pts*	+1.3 pts	Strong — savings & planning lift

Across the three programmes, SIDBI FL&WE produced the strongest overall gains — particularly in objective knowledge (MCQ +1.6) and debt literacy — validating the co-delivery model. The Mahila Samman Savings Certificate's impact, while awareness-driven rather than participation-driven, demonstrates that a high-profile government savings product can serve as a catalytic financial literacy instrument through associated campaigns. Nai Roshni's impact, while moderate in magnitude, is particularly significant in its reach to the most economically disadvantaged women, who have the fewest alternative exposure routes to financial education. The programmes are complementary, not competitive; Nai Roshni is an awareness programme on building confidence and budgeting awareness; SIDBI FL&WE is an applied debt and investment awareness programme; and MSSC focuses on savings and planning behaviour in a tangible, low-risk product.

VII. REGRESSION ANALYSIS

Three Ordinary Least Squares (OLS) regression models and five section-level regressions and one-way ANOVAs were estimated to go beyond descriptive cross-tabulations and isolate the independent contribution of each demographic factor and government programme to each of the financial literacy outcome variables. All models meet standard diagnostic tests: residuals are normally distributed (Shapiro-Wilk $W = 0.9885$, $p = .97$); residuals are homoscedastic (Breusch-Pagan LM = 8.94, $p = .78$); and there is no autocorrelation (Durbin-Watson = 2.01). The diagnostic concern is MSSC variable with a coefficient of 0.14, which is very imprecise, due to its collinearity with education (as it has a VIF of 9.87 for MSSC, this does not affect the other variables, as the VIF's = 1.47; SIDBI FL&WE VIF = 1.60).

7.1 OLS Model Comparison

Table 14: OLS Model Comparison — R^2 , Adjusted- R^2 , F-statistic, AIC (***) $p < .001$)

Model	R^2	Adj- R^2	F-statistic	AIC	Verdict
M1: Demographics Only	0.441	0.390	F (10,109) = 8.61***	942.7	Baseline
M2: + Programme Exposure	0.509	0.449	F (13,106) = 8.45***	933.2	Best fit ($\Delta AIC = -9.5$)
M3: MCQ as Outcome	0.359	0.280	F (13,106) = 4.57***	413.7	Knowledge model

Model 2 is the best-fitting specification (lowest AIC = 933.2, $\Delta AIC = -9.5$ vs. Model 1). The variance in composite literacy scores is accounted for by 44.1% of the variation in demographics. This rises to 50.9% when programme exposure is added as a 3rd predictor (a statistically significant increase; F-change ~ 4.75 , $p = .004$) demonstrating that programme participation adds "real" explanatory power beyond the demographic predictors. Objective performance on the MCQs instead of the Likert composite as the outcome (Model 3, $R^2 = 0.359$), education effects remain but no programme is found to have a significant

effect, consistent with the overall financial education evaluation literature.

7.2 Model 1: Demographic Predictors ($R^2 = 0.441$)

Education and income are the two dominant predictors. All income group dummies and both higher-education dummies are statistically significant at $p < .001$. Marital status has no independent effect once education and income are controlled, confirming that apparent marital-status differences in raw data are entirely attributable to confounding with these socioeconomic variables.

Table 15: Model 1 Regression Coefficients — Demographics Only (Composite Score /125)

Predictor	β	SE	t	p	Significance
Intercept ($\leq$ HS, $<₹15k$, Age 18–25, Single)	47.74	4.35	10.97	$<.001$	Reference group
Graduate (vs $\leq$ HS)	+15.90	2.98	5.34	$<.001$	✓✓ Strong
Post-Graduate+ (vs $\leq$ HS)	+21.67	3.20	6.78	$<.001$	✓✓ Strongest predictor
Income ₹15–35k (vs $<₹15k$)	+13.04	3.04	4.29	$<.001$	✓ Threshold effect
Income ₹35–60k	+12.32	3.18	3.87	$<.001$	✓ Strong
Income $>₹60k$	+16.69	3.62	4.60	$<.001$	✓ Strong

Age 26–35 (vs 18–25)	+13.36	3.10	4.31	<.001	✓ Significant
Age 36–45	+7.42	3.17	2.34	.021	Moderate (career-interruption)
Age 46–60	+2.46	3.23	0.76	.448	Not significant
Married (vs Single)	−0.25	2.32	−0.11	.913	Not significant
Widowed/Separated	−0.29	4.63	−0.06	.951	Not significant

A post-graduate woman scores +21.67 composite points above a woman with only Higher Secondary education, holding all other variables constant. Combined with the highest income group (+16.69), a PG+ respondent earning above ₹60k/month sits approximately +38 points above the reference group — nearly one full literacy band higher. Tukey HSD post-hoc confirms that the Graduate vs. Post-Graduate gap ($\Delta = +4.6$, $p = .224$) is non-significant, establishing that the most consequential

literacy divide is between no-degree and any-degree holders ($\Delta = +14.6$ to $+19.2$ pts, both $p < .001$). On income, every comparison involving the below-₹15k group is statistically significant ($p < .013$), while no comparison among the three higher income groups reaches significance, a pure threshold effect: crossing the poverty-adjacent income floor drives the literacy gain, not income growth above it.

7.3 Model 2: Programme Exposure Added ($R^2 = 0.509$)

Table 16: Model 2 — Programme Exposure Coefficients (net of all demographic controls; Composite Score /125)

Programme Predictor	β	SE	t	p	Interpretation
Nai Roshni (participant vs not)	+4.19	3.26	1.28	.201	Directional; n.s. — underpowered (n=19)
SIDBI FL&WE (participant vs not)	+10.03	2.79	3.60	<.001	✓✓ Significant; Cohen's d = 0.65
MSSC Awareness (yes vs no)	−3.97	4.19	−0.95	.345	n.s. — selection bias; VIF = 9.87

SIDBI FL&WE is the only programme that has a statistically significant controlled effect, ($\beta = +10.03$, $p < .001$, Cohen's d = 0.65), which is a medium-to-large size effect when compared with the conventional standards of effect sizes, and this is not a

'demographic artefact' but learning that is truly induced by the programme. IDBI FL&WE women perform around 10 composite points better than women who are not participating, who are demographically similar. The mechanism is straightforward: co-delivering financial information with

credit access leads to greater and more accurately measured impacts since financial information is received while respondents are simultaneously facing a real financial choice (Grohmann et al., 2018). The coefficient of Nai Roshni (+4.19) is directionally positive, but not significant, consistent with the raw gain (+5.6 points) which may be a real effect, although it is statistically underpowered for this small

sample ($n = 19$). Under controls, MSSC awareness drops to -3.97 , revealing a selection-bias mechanism: MSSC awareness is independently more elevated among women who are already financially engaged ($r = -0.24$), and the scheme is not used as a gateway for the least-educated in any way.

7.4 ANOVA, Post-Hoc Tests, and Section-Level Regressions

Table 17: One-Way ANOVA Results — Composite Score by Demographic Group

Factor	F-stat	p-value	Effect Size (η^2)	Magnitude	Interpretation
Education	14.60	<.001	0.200	Large	Dominant predictor-exceeds income and age
Income	5.17	.002	0.118	Medium-Large	Threshold at ₹15k; diminishing returns above
Age	2.74	.047	0.066	Small	26–35 peak; the smallest of the three factors

One-way ANOVAs confirm the dominance hierarchy: education ($\eta^2 = 0.200$, $F = 14.60$, $p < .001$) accounts for nearly twice the variance explained by income ($\eta^2 = 0.118$, $F = 5.17$, $p = .002$), which in turn dwarfs the age effect ($\eta^2 = 0.066$, $F = 2.74$, $p = .047$).

When the specification of 13 determinants is

used in five section-level OLS regressions, there is significant cross-determinant variation in the tractability of each of the five literacy dimensions.

Table 18: Section-Level OLS Regressions — R^2 , Adj- R^2 , F and Key

Section	R^2	Adj- R^2	F	p	Key Finding
A: Money Management & Budgeting	0.452	0.385	6.72	<.001	Highest R^2 ; PG+ strongest (+4.48 pts)
B: Saving & Investment	0.402	0.329	5.48	<.001	Income >₹60k (+3.93); SIDBI FL&WE (+2.3)
C: Debt & Credit Management	0.317	0.233	3.79	<.001	SIDBI FL&WE strongest (+3.5); EAR gap addressed
D: Risk & Insurance	0.276	0.187	3.10	.001	Lowest R^2 — most resistant;

					targeted training needed
E: Financial Planning	0.347	0.267	4.34	<.001	Income >₹60k strongest (+3.06); capacity-to-act issue

The dimension that is best explained is Section A (Money Management $R^2 = 0.452$), which is best explained by education and income; budgeting behaviour is most clearly influenced by socioeconomic exposure. This is Section D (Risk & Insurance; $R^2 = 0.276$), the least tractable section: Demographic and programme variables account for less than a third of the variance, indicating that insurance knowledge is idiosyncratic and requires targeting, product-specific training

that current programmes do not provide enough. The unevenness of the planning gap (8.7 vs 17.8/25) is even larger in Section E (Financial Planning) than in any of the other sections, indicating that long-term planning is in part a 'capacity to act' problem as well as a 'knowledge deficit'.

7.5 MCQ Knowledge Gap Analysis

Table 19: MCQ Correct-Answer Rates and Knowledge Gap Analysis (n=120)

Q#	Topic	% Correct	Knowledge Gap & Policy Implication
Q26	Compound interest calculation	48.3%	Majority apply simple interest — foundational gap
Q27	Definition of inflation risk	67.5%	Moderate; some confusion with credit risk
Q28	AAA bond yield vs. risk	41.7%	Higher credit rating incorrectly linked to higher yield
Q29	SIP features (NOT guaranteed)	52.5%	Many believe SIPs are guaranteed — mispricing risk
Q30	Section 80C deduction limit	58.3%	Confusion between ₹1L and ₹1.5L thresholds
Q31	Best use of ₹50k bonus	61.7%	Many chose savings over debt repayment — debt avalanche gap
Q32 △	Flat vs. reducing balance loan cost	29.2%	CRITICAL — lowest score; enables predatory lending; FL&WE raises to 61.4%
Q33	Income drops 30%: first priority	73.3%	Crisis intuition strongest — essentials-first logic intact

Q32 (EAR loan comparison, 29.2% correct) is the single most consequential knowledge gap in the instrument. A woman who selects a 12% flat-rate loan over a 14% reducing-

balance loan based on the lower nominal rate will pay substantially more in total interest — the flat rate implies an effective annual rate of approximately 21.5% — a

costly and entirely preventable error that predatory lenders are structurally incentivised to exploit. SIDBI FL&WE participation more than doubles the Q32 correct-answer rate from 29.2% to 61.4%, validating the co-delivery model as the mechanism of choice for closing this gap. Q26 (compound interest, 48.3% correct) represents the foundational knowledge underpinning both savings and debt decisions; its low score helps explain the simultaneous weakness in Sections B and C. These two items together define the highest-priority knowledge targets for curriculum design.

VIII. DISCUSSION

This sample yielded the income, age and the three government programmes combined as the single most powerful predictor of financial literacy. Educational attainment alone explains one-fifth of the total variance in the financial literacy composite scores, a large proportion for an economy in the developing world, as indicated by a partial eta-squared of $\eta^2 = 0.20$ and a standardised coefficient of $\beta \approx +.22$ of the regression coefficients for education level for those in post-graduate education compared to the no-degree baseline. However, the key difference is found at the level of degree,

rather than at the level of the degree: after the undergraduate degree, there is no economic difference between continuing to post-graduation and not, since the effect of the degree is statistically zero. The message being sent is that it is the fact that formal tertiary education is or isn't, not how much, that differentiates the financially capable from the financially disadvantaged. This finding is in keeping with Mishra et al. (2021), who found that education level was the highest loading variable in their factor analysis of Indian SHG women and with Bucher-Koenen et al. (2017), who also found that the gender-literacy gap is strongest exactly at those points where formal education has been denied or interrupted. In a policy context, this means clear priority for interventions that lift obstacles to women's first-generation high school graduation, such as a girls' scholarship programme, an adult education literacy bridge, and community college access, which will bring about literacy returns that only a targeted financial education programme can match.

Examining the relationship between household income and financial literacy from the regression perspective is more interesting — and more actionable — than a gradient would indicate. The data suggest

that there is a significant threshold effect, with composite scores increasing by 12–17 points with each additional increment of income until reaching the threshold of ₹15,000 per month, and no further gains in composite scores are observed at further increases above that level. There are two important messages in this non-linearity. First, it points out that the sub-₹15,000 population is not only high need, but also high return: The marginal impact of a marginal increase in literacy among this population is disproportionately large; and income-support interventions such as conditional cash transfers, livelihood linkages and microenterprise credit are not only welfare interventions but also financial literacy interventions. Second, it challenges the notion that increased income automatically addresses financial literacy gaps: once income reaches a certain level, the level of literacy continues to rise, but at a slower rate, so that there is a new window of intervention, albeit one of a different nature, at the middle-income range, where financial skills are also lagging. Swamy (2016) showed that the poorest households benefit the most from financial inclusion, and the present regression confirms that the income-literacy gradient is steepest at the low-income end, where people are most in need

and most likely to benefit from income-linked programming.

The regression analysis results leave the women's empowerment and financial literacy programme (FL&WE) of SIDBI as the most empirically sound and rigorous programme, with a controlled $\beta = +10.03$ ($p < .001$) and a medium to large Cohen's $d = 0.65$ (by conventional standards). What is not hard to see is the mechanism of the superiority that comes with FL&WE: Awareness-only campaigns are not as effective as the financial education that comes directly with credit; it is a learning environment where knowledge is put immediately into action. Women participating in this programme are not only learning abstract literacy in a classroom, but they are also learning to calculate the costs of a loan they hold and to understand how interest works, while making decisions on their loans; they are learning to differentiate between financial products and making choices about them. This co-delivery structure is the one Grohmann et al. (2018) found to deliver the highest and most precisely measured score gains in financial inclusion outcomes across developing economies, and it is the best modality in this study to do so. The biggest impact of the programme is on the targeted element of the

curriculum, Q32 (Effective Annual Rate loan comparison), where the participants' mean of 61.4% correct-answer responses is more than double that of 29.2% for the full sample, and the exposure of the FL&WE model as the “gold standard of debt literacy programming for Indian women”.

Perhaps the most telling cautionary result from the entire regression is the Mahila Samman Savings Certificate. When calculated without any adjustments, MSSC awareness seems to give a positive score advantage. However, when controlling for education, income and age, the controlled coefficient becomes negative but not at a traditionally accepted level of significance, exposing a classic selection-bias artefact. The women who became aware of MSSC were already, on average, more educated, more financially involved and more information-seeking than those who were not aware of it, so the apparent literacy gain is a reflection of the women that the scheme was addressing, and not of the learning that took place. This is not the MSSC's fault as a saving tool; it is a very well-considered, government-guaranteed savings product at 7.5% compounded QQ, and has been adopted by a lot of people who have an account with the post office. However, it works on the assumption of a low entry bar:

as a depth tool for those already engaged, rather than an entry tool for the least literate, and those who think high MSSC awareness figures are measures of financial literacy penetration among the poorest of the poor are measuring a selection effect, not a programme effect. However, the right design solution is not to drop the scheme, because it is time to make sure the scheme reaches women who are most likely to benefit from it, but to incorporate it into proactive outreach, with a combination of product communication, calculation of benefits in plain language, and peer demonstrations.

Where one dimension shows the boundaries of the study's explanatory power, it is Risk and Insurance (Section D). Insurance literacy is the most resistant of the five dimensions to prediction from any set of demographic variables and programme participation that was included in the regression, with a model R^2 of 0.276. Almost 75% of the variance in insurance literacy remains unaccounted for by education, income and FL&WE participation combined. There is a strong implication that this is not a natural result of being educated, being paid more, or even partaking in a general financial literacy programme. It is a matter of providing

contextually relevant training, giving respondents a tour of the mechanics of term versus endowment products (Q20, mean 2.19/5) and the impact of underinsurance on dependent households. With the programmes examined in this study, no programme explicitly and comprehensively covers insurance literacy in a reliable way that is likely to improve Section D scores. It is the biggest gap in the current programme landscape and signals a specific design dimension: lack of an insurance-literate India programme that will do to risk management what FL&WE does to debt literacy: make abstract knowledge relatable through the interaction with a live product.

Ironically, the oldest age group (36-45) – the one with most years of experience in managing their home finances – is scoring the lowest in section E (Financial Planning and Goal Setting) – at the exact age and time in their lives when the math of saving for retirement is most urgent. The regression accounts for some of that downward shift in terms of differences in education and income level, but the decrease is actually attributable to the cohort itself and reflects the career-interruption hypothesis, which suggests that responsibility for child rearing causes people to defer active financial planning when it is most likely to have an

impact. A 35-year-old woman who misses out on making retirement contribution until 45 and gets a 10% return on investment will lose approximately 59% of the corpus of the investment that she would have accumulated if she had made regular retirement contribution at age 35. Not just a small problem, but a financial crisis of a lifetime is unfolding for the most economically productive subset of the sample. Thus the need for a policy isn't not only ethically sound but mathematically required. This research revealed that the age range of 36-45 is the highest risk, quickest window of opportunity for a targeted outreach to encourage “thinking about the real cost of postponing a pension choice decision” rather than abstract pension literacy.

Perhaps the most immediately actionable of the findings is the one related to a single question on the survey: Q32, which asks respondents to identify the lower cost of two offers of mortgages: one at 12% flat and the other at 14% reducing balance. This is the lowest correct-answer percentage in the entire MCQ battery, with 29.2% of respondents getting it right, which is not academic, but has negative impacts. A somewhat obvious mistake that predatory lenders are structurally encouraged to make, where a woman chooses the 12% flat-rate

loan over the 14% reducing-balance loan based on the nominal headline rate, is that she will pay a lot more in total interest over the life of the loan. This particular gap is closed with the involvement of SIDBI FL&WE, with the most consistent rate of success (61.4% of respondents correct), and has a clean regulatory solution as well: the mandatory Effective Annual Rate (EAR) disclosure on all loan communications, which is currently not consistently applied. The interplay of these three elements that define a priority policy target – maximum knowledge deficit, clear and proven curriculum remedy, and directly-addressable regulatory intervention – is unique, and this is the single most "actionable" finding that this study makes and a natural anchor for a future EAR literacy campaign co-designed by SIDBI, the RBI, and consumer protection bodies.

IX. RECOMMENDATIONS

1. Complementarity of Nai Roshni with its confidence and budgeting modules, SIDBI FL&WE with its debt and investment modules and Mahila Samman Savings Certificate and similar instruments indicate a pathway of integrated programs, starting with the confidence and budgeting modules of Nai Roshni, continuing with the debt and investment modules of SIDBI FL&WE and ending with the savings behaviour modules of MSSC and similar instruments, that would cover the entire five-dimensional literacy profile. Co-development of a joint Women's Financial Literacy Pathway by the Ministry of Finance, Ministry of Minority Affairs and SIDBI with shared tracking of enrolment in programmes to ensure that women don't fall through gaps in the programme.
2. Extension of SIDBI FL&WE to cover Insurance and Retirement Dimensions: SIDBI FL&WE's existing curriculum does well on debt and savings, with good outcomes in Sections B and C, and less on Sections D (Insurance) and E (Planning). The remaining weak dimensions could be covered by a curriculum extension which includes insurance product identification (Q20), retirement contribution basics (Q22) and financial goal-setting (Q23) without the need for a parallel programme infrastructure.
3. MSSC Awareness Campaigns as Financial Literacy Vehicles: The Mahila Samman Savings Certificate illustrates

the sustainability of a financial literacy vehicle, designed as a government savings instrument, that has strong visibility through an awareness campaign with measurable impacts on financial planning scores, even for those women who are not investors. Future government saving schemes for women should include financial literacy components in the product launch, such as material on how to calculate interest, links to retirement planning and material that helps women compare the different schemes.

4. Financial confidence is the primary barrier (68.3%) and must be given a first-order outcome status: programmes must make sure that financial confidence is made explicit and measurable as a first-order outcome next to knowledge. Modules should start with affirming existing competencies, followed by addressing gaps in knowledge, as most respondents can budget (Q1 mean = 3.82). A peer mentoring model involving women who have gone through financial literacy training to then coach others has been effective in health literacy settings and should be piloted in financial literacy programming.
5. There is a high-stakes, time-sensitive policy window for targeting the 36–45 Age Cohort with Retirement Planning Outreach: Underperformance in Section E (11.8/25), and the career interruption dynamic it conveys, mark a policy window. Outreach efforts aimed at women in this age group should particularly highlight the backdoor effects of deferred retirement saving contributions, ease of access to NPS and PPF products and the availability of government schemes for women's financial security. The impact on the retirement corpus is huge because of the yearly delay in this stage of life.
6. Future research should address this EAR knowledge gap using Consumer Protection Regulation: 6.2% correct answers on Q32 – EAR loan comparison suggests a significant and important EAR knowledge gap that cannot be fully solved by individual education. Structural protections for women who don't know how to calculate EAR themselves could be included in the regulations by mandating that all loan communications disclose EAR, not just nominal flat or reducing rates. This is a complementary measure on the supply

side to the demand side of financial education.

X. CONCLUSION

This study has given detailed primary evidence about the nature, extent and determinants of financial literacy of 120 women of Delhi NCR with a structured 33-item questionnaire, which comprised five Likert scale items and eight MCQs. The overall result of the average literacy (71.6/125) and the critical literacy gaps in insurance, debt and financial planning are similar to the international literature, but with dimension and item level detail that can guide focused interventions.

The scheme-impact analysis, however, was the most novel aspect of the study, as it provided a direct empirical finding that each scheme is creating an observable improvement in financial literacy, albeit in different aspects and for different groups. SIDBI FL&WE has the highest knowledge gains (MCQ +1.6), especially in debt literacy. MSSC has the highest levels of awareness of savings and planning (+3.4 points on Section E). Nai Roshni provides the longest-lasting behavioural changes in budgeting for the most economically vulnerable women. None of the programmes includes all 5 dimensions.

The main policy recommendation is that India's financial literacy mandate for women needs to be structured and sequenced to build confidence, introduce products and debt knowledge, and establish long-term savings anchoring along a coherent and trackable continuum between individual programmes, rather than pursue more programmes in isolation. That pathway is designed using the information in this paper as the diagnostic basis, as well as programme impact evidence. It is not just an equity issue; it is also an investment in the economy that pays off for households, generations and the national economy.

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