

# Picturing How PMSBY and PMJJBY Matters

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## Abstract

In 2015, the Government of India launched two term plans viz. Pradhan Mantri Suraksha Bima Yojana (PMSBY) and Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) with the objectives to cover the vast uninsured population. Under the schemes, the insured get term insurance coverage up to INR 0.2 million subject to certain terms and conditions by paying an annual premium of merely INR 12 and INR 330 respectively, the least among all the existing insurance policies available in the country. The present study seeks to report the motivating factors of the sample respondents of Dharmanagar, a town of the north-eastern Indian state of Tripura, for taking term insurance under PMSBY and PMJJBY. A model has been formed and the data reduction test has been carried out through Factor analysis. Using cross-sectional research design and based on the outcome of a pilot study, a survey with 50 questions has been used to collect data from a randomly chosen sample of 125 respondents. The result of the Independent Sample t-test has indicated that gender is a significant influencing factor in purchasing insurance plans. Additionally, the findings of Cross Tabulations have validated that non-gender demographics also have a significant influence in taking insurance coverage. The outcome of Multiple Regressions has documented that financial literacy and uncertainties have a significant influence in purchasing the plans. An analysis of the relevance of each policy has been drawn and it

acknowledges a few shortcomings like study period, study area, small sample size, selective hypotheses and variables, self-administered interview schedule rather than adoption or adaptation and power of statistical tools; it has also indicated the roadmap for future research.

**Key words:** *Term Insurance, Survey, Descriptive Statistics, Factor Analysis, and Inferential Statistics*

## 1. Introduction

Literature has indicated that life insurance can be studied theoretically from multi-dimensional perspectives such as adverse selection and demand elasticity (Thomas, 2009), as an investment tool (Mayers & Smith, 1983), its density, penetration, GDP per capita, inflation, impact of development of the banking sector (Beck & Webb, 2003; Browne & Kim, 1993; Outreville, 1996a), as an emergency fund (Hammond, Huston & melander, 1967), as a bequest (Inkman & Michaelides, 2012; Bhalla & Kaur, 2007) and the impact of culture on its demand (Park, Borde & Choi, 2002). Life Insurance products generally have been classified into (a) term life insurance policy, (b) whole life insurance policy, (c) endowment policy, (d) pension plan, (e) money back policy, etc. In 2015, the Government of India launched two term plans viz. Pradhan Mantri Suraksha Bima Yojana (hereinafter referred to as PMSBY) and Pradhan Mantri Jeevan Jyoti Bima Yojana (hereinafter referred to as PMJJBY) with the objective of covering the

vast uninsured population. A term life insurance policy covers the life of the policy holder for a certain period of time; during this period, in case of any mishap, the dependants of the insured are given the policy amount. However, if the insured survives the policy period, nothing is paid to the policyholder or the beneficiaries. In other words, it only covers the risk of loss of life of the insured during the policy period against the payment of the stipulated premium. Under PMSBY, any citizen of India between 18 and 70 years of age, having a savings bank account, can take cover under this scheme by paying an annual premium of INR 12 only with a sum assured of INR 0.2 million, payable to the dependant(s) in case of any accidental death of the insured. Such compensation would be reduced to INR 0.1 million in case of permanent total disability with loss of both eyes or loss of both hands or feet, or loss of sight of one eye and loss of one hand or one foot. Under PMJJBY, an Indian citizen between 18 and 50 years of age having a savings bank account with a declaration of sound health can take cover by paying an annual premium of INR 330 only with a sum assured of INR 0.2 million payable to the dependant(s) in case of death of the insured due to any reason.

Literature has acknowledged the seminal contribution of researchers regarding social security schemes (Polanyi, 1944; Marshall, 1949; Wilensky & Lebeaux, 1958; Kerr et al. 1960; Pryor, 1968; Rimlinger, 1971; Hecl, 1974). Studies have validated

that rising healthcare costs and fatal eventualities adversely impact the earnings of families (Wang et al. 2011; Yang & Hall, 2008; Mokdad et al. 2003; Finkelstein, Fiebelkorn & Wang, 2003). Community Based Health Insurance (CBHI) schemes may well address the problem (Dror & Jambhekar, 2016; Dror, 2014; Dror & Jacquier, 1999). This emphasised the introduction of health insurance schemes in countries such as Africa (Arhin, 1995; World Bank, 1987, 1993; Vogel, 1990; Abel-Smith, 1986) but their presence is less in developing countries (Dumoulin & Kaddar, 1993; Baza et al. 1993; Carrin, 1987); around 30 percent of the population of Thailand in 2001 had no health insurance (Surarathecha et al. 2005; Jirojanakul et al. 2004; Tangcharoensathien, 1996). These schemes suffer from structural and implementation problems in India (Jha, 2014; Chatterjee et al. 2013; Jha et al. 2013; Jha & Gaiha, 2012; Svedberg, 2012; Arora, 2011; Johnson & Kumar, 2011; Reddy, 2011; Palacios, 2011; Jha et al. 2009; Kuruvilla & Liu, 2007; Mooji & Dev, 2004; Jalan & Ravaliion, 2003; Parekh, 2003; Saxena, 2001). A few studies have suggested the need for more market-oriented social insurance schemes in EU (Ferrera & Hemerijck, 2003; Esping-Andersen, 2002; Bonoli et al. 2000; Scharpf & Schmidt, 2000).

While there are numerous studies addressing multiple dimensions of insurance, especially in the European and American continents and a few in Asian countries having different socio-economic and legal environments, there is very modest research on India and specifically Tripura with respect to term insurance plans. However, there are studies on India that have attempted to address multiple dimensions of government sponsored health insurance schemes (Swaminathan & Viswanath, 2015; Sunitha & Pugazhenthii, 2014; Yelliah, 2013;

Forgia & Nagpal, 2012; Sane & Singh, 2012; Joseph & Rajagopal, 2011; Sun, 2011; Devadasan et al. 2010; Aggarwal, 2010; Kadam et al. 2009) and financial inclusion schemes such as the Prime Minister's Jan Dhan Yojana (PMJDY) and Pahal Scheme (Deb & Das, 2016; Srivastava & Malhotra, 2015; Iyer, 2015; Rather & Lone, 2014; Garg & Agarwal, 2014; Thaper, 2013; Sharma & Kukreja, 2013; Ramasubbian & Duraiswamy, 2012; Mukherjee, 2012; Rachana, 2011; Kuri & Laha, 2011; Samant, 2010). As PMSBY and PMJJBY have been introduced in the Indian insurance market only about a year ago, in 2015, there are only a few studies on these schemes. This deficiency in the literature has been identified and the present study has attempted to bridge that gap by contributing to the literature. The scope of the present study has been confined to the randomly chosen respondents of Dharmanagar, a town of Tripura, a north-eastern state of India.

The present study has contributed to the literature in four ways. *Firstly*, it has reported the influence of gender in taking coverage, as men demand more insurance than women, which has correlated with literature (Grover & Palacios, 2011). *Secondly*, the significant influence of non-gender demographics have been validated in the study in line with prior studies like the positive influence of income (Park & Lemaire, 2012); positive significance of age (Showers & Shotick, 1994), but has contradicted with studies of negative correlation (Chen et al. 2001) and non-significance (Gandolfi & Miners, 1996); the positive significance of education (Inkman & Michaelides, 2012), but has differed from negative (Zietz, 2003) and non-significant influence (Treerattanapun, 2011); the positive impact of marital status (Hong & R' ios-Rull, 2006) and family size (Li et al. 2007), and having children (Inkman & Michaelides,

2012) has a significant influence in taking the plans. *Thirdly*, the respondents' decision has been influenced by their financial literacy, which is also validated by the literature (Bann, Uhrig, Berkman, & Rudd, 2009). *Finally*, the study has reported that the sense of uncertainty is a significant motivator for taking term plans, which has also been validated in the literature (Pratt, 1964; Mossin, 1968).

*This study aims to report the motivators of taking term insurance coverage under PMSBY and PMJJBY.*

The remainder of the paper has been structured as follows: Section 2 has explained the conceptual underpinnings on which the research hypotheses have been developed. Section 3 has dealt with methods; Section 4 has presented the results, and discussions of the results have been presented in Section 5. Finally the conclusions of the study have been enumerated in Section 6.

## 2. Conceptual Underpinnings

Prior studies carried out on term insurance have been reviewed to frame the conceptual model and based on that, related hypotheses have been set.

### 2.1 Gender and Insurance

Literature has indicated that demand for life insurance varies among men and women based on differences in their life spans (Gandolfi & Miners, 1996) and women have purchased less insurance than men (Alborn, 2009; Grover & Palacios, 2011). This study hypothesised that:

$H_{01}$ : Gender does not influence the insurance decision.

$H_{A1}$ : Gender influences the insurance decision.

### 2.2 Non-Gender Demographics and Insurance

Literature has indicated the influence

of non-gender demographics toward holding term insurance, which have been enumerated below:

**2.2.1 Income**

Income has a significant influence on the demand for insurance (Outreville, 1990; Esho et al. 2004; Li et al. 2007; Elango & Jones, 2011; Feyen, Lester, & Rocha, 2011; Park & Lemaire, 2012), but this is not the only determinant in the insurance buying decision (Bundorf & Pauly, 2006).

**2.2.2 Age**

Age has been reported to have a significant impact on insurance decisions; this has been considered positively (Berekson, 1972; Showers & Shotick 1994; Truett, 1990); negatively (Ferber & Lee, 1980; Bernhaim, 1981; Chen et al. 2001); and non-significantly (Hammond, Houtson & Melander, 1967; Duker 1969; Anderson & Nevin, 1975; Burnett & Palmer, 1984; Fitzgerald, 1987; Gandolfi & Miners, 1996b).

**2.2.3 Education**

Education has been found to be positively related to life insurance demand (Truett & Truett, 1990; Esho et al. 2004; Li et al. 2007; Inkmann & Michaelides, 2012; Curak, Dzaja & Pepur, 2013) and its purchase decision (Hammond et al. 1967); but highly educated wives demand less insurance for their spouses (Gandolfi & Miners, 1996c). A few studies have reported a negative (Anderson & Nevin, 1975; Auerbach & Kotlikoff,

1989; Zietz, 2003) and non-significant association (Outreville, 1996; Beck & Webb, 2003; Li, Moshirian, Nguyen, & Wee, 2007; Treerattanapun, 2011; Feyen, Lester, & Rocha, 2011).

**2.2.4 Marital Status**

Literature has indicated that marital status has a significant positive impact (Fitzgerald, 1989; Hong & R'ios-Rull, 2006), negative impact (Hammond et al. 1968; Mantis & Farmer, 1968) and non-significant impact on insurance demand (Burnett & Palmer, 1984b). Studies have validated that married people live longer than unmarried people and hence, take insurance coverage (Hu & Goldman, 1990; Trowbridge, 1994; Lillard & Panis, 1996; Yue, 1998).

**2.2.5 Family Size**

Literature has indicated that families having higher dependency ratios (Beenstock et al. 1986; Truett & Truett, 1990; Browne & Kim, 1993; Beck & Webb, 2003; Li et al. 2007), with children demand more life insurance (Inkmann & Michaelides, 2012); significant negative (Hammond et al. 1967; Auerbach & Kotlikoff, 1989) and non-significant demand for life insurance have also been reported (Ducker, 196a, Anderson & Nevin, 1975). So it is hypothesised that:

*H<sub>02</sub>: Non-gender demographics do not influence insurance decisions.*

*H<sub>A2</sub>: Non-gender demographics influence insurance decisions.*

**2.3 Financial Literacy and Insurance**

Financial literacy, the ability to understand financial information in making effective financial decisions has been validated in literature to impact insurance decisions (Fox, Bartholomae, & Lee, 2005; Lusardi, 2008), in managing risk through insurance (McCormack, Bann, Uhrig, Berkman, & Rudd, 2009); but such skill has differed between men and women (Lusardi, Mitchell, & Curto, 2010; Lusardi & Mitchell, 2007; Lusardi & Mitchell, 2008). Hence it is hypothesised that:

*H<sub>03</sub>: Financial literacy does not influence insurance decisions.*

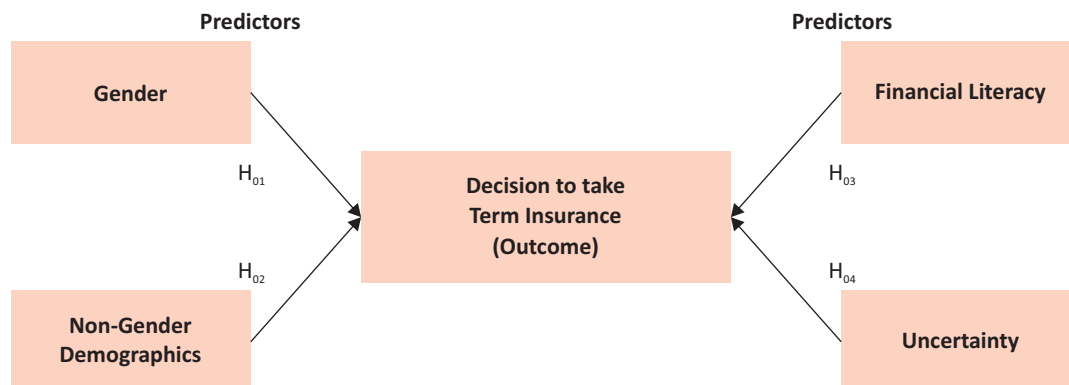
*H<sub>A3</sub>: Financial literacy influences insurance decisions.*

**2.4 Uncertainty and Insurance**

Literature has documented that insurance covers events such as death and illness, a situation of uncertain ambiguity rather than risk, where possible probabilities of outcome are unknown (Knight, 1921). Unlike insurers, individuals do not have access to information (Hogarth & Kunreuther, 1989; Koufopoulos & Kozhan, 2010; Liu & Colman, 2009) and take insurance coverage under the situations of uncertainty (Yaari, 1965) and consider it as a risk cover (Pratt, 1964; Mossin, 1968). Hence, it is hypothesized that:

*H<sub>04</sub>: Uncertainty does not influence insurance decisions.*

*H<sub>A4</sub>: Uncertainty influences insurance decisions.*



**Fig: 1 Conceptual Model of PMSBY and PMJJBY**

In Figure 1, a conceptual model has been constructed based on which hypotheses have been deduced.

### 3. Methods

The research methods are those techniques and procedures which have been used to acquire and analyse the data. This section has been designed in the following sub-heads.

#### 3.1 Research Design

The study has used cross sectional (survey) research design to assess the motivating factors of the sample respondents of Dharmanagar, a town in the north-eastern Indian state of Tripura, for taking term insurance under PMSBY and PMJJBY. The study is carried out at a particular point of time (during January-May, 2016). The survey approach has been used as it has specific objectives (Malhotra, 2010; McDaniel & Gates, 2010) and has involved a substantial number of participants (Burns & Bush, 2009).

##### 3.1.1 Schedule Development

An interview format was used as a tool for data collection since people hesitate to give truthful answers to questions that relate to their personal finances (Malhotra, 2005). The questions for the interview were developed in the following ways:

*Firstly*, sources from the University digital library were accessed, especially the academic e- journals of prominent publishers, and nearly 100 relevant papers were downloaded. Thereafter the papers were extensively reviewed to generate an inventory of 50 questions.

*Secondly*, a pilot study was conducted using randomly selected 30 sample respondents to check the clarity, relevance and completeness of the questions as recommended by Zikmund & Babin (2012). The outcome of the pre-test reduced the number of questions to 46 for the

final survey.

The values of Cronbach's alpha of the questions (Section B) of the pre-test were calculated as:

.642, .678, .652, .650, .642, .697, .664, .658, .661, .656, .658, .648, .670, .661, .642, .667, .660, .648, .663, .672, .651, .675, .670, .644, .645, .683, .651, .651, .653, .645.

Questions with Cronbach's alpha values above .5 were retained for the final survey.

*Finally*, the 46 questions developed from the pre-test were administered to a large sample of respondents.

##### 3.1.2 Sampling Design

The study has assumed that all the insured under PMSBY and PMJJBY schemes of Dharmanagar are included in the study population; however, since the exact numbers are not available, the study has not determined the sampling frame. From 160 people approached to voluntarily participate, 125 gave their consent; this sample size was computed as per the guidelines of Roscoe (1975). Tabachnick & Fidell (2013) recommended that for social science research, a sample size between 30 and 500 is adequate.

##### 3.1.3 Data Collection Design

###### 3.1.3. A. Primary Data

A cover letter containing general information and closing instructions was used as suggested by Dillman (1978). Firstly, a rapport was built with the selected respondents and the purpose of the study was briefly explained to them so as to get honest responses (Oberhofer & Dieplinger, 2014). A close-ended pre-coded schedule with a 5-point Likert scale ranging from 'strongly disagree' (1) to 'strongly agree' (5) was used for its user-friendliness in coding, tabulation and interpretation of data (Hair et al. 2010). The respondents were requested to fill up the items of the schedule carefully, doubts were clarified whenever requested and they were assured about maintaining anonymity (Jobber, 1985;

Oppenheim, 1992). To eliminate the risk of non-comprehension and ambiguity problems, on request, the items of the schedule were translated into vernacular language (Bengali) as suggested by Peytchev et al. (2010).

###### 3.1.3. B. Secondary Data

The study explored academic and professional journals, books and the web as a secondary source.

#### 3.2 Parameters

The variables of the study were categorized as *Predictors* which include selective demographics, financial literacy and uncertainty; the *Outcome* – decision to take term insurance under PMSBY and PMJJBY and the *Confounding* - influence of referral group members.

#### 3.3 Significance Level

To test the hypotheses, the study has assumed the confidence level as 95% i.e. the significance level was set at 5% ( $\alpha$ ).

#### 3.4 Data Analysis Strategy

The statistical software, IBM Statistical Package for Social Sciences (SPSS)-20, was used for analysing raw data. The questions were addressed either through simple descriptive statistics (modes, means and standard deviations) or through inferential statistics (Independent Sample t-test, Cross Tabulations and Multiple Regressions). Factor analysis, a set of techniques which reduce the variables into fewer factors economically (Nagundkar, 2010), was used. The Principal Component Analysis (PCA) method was employed to identify theoretically meaningful underlying factors (Mitchellmore & Rowley, 2013); which have split the data into a group of linear variants (Dunteman, 1989).

#### 3.5 Choice of Tests

The objectives and rationality for using different inferential statistics have been summarized below:

Tests	Measurement	Variables				Purposes	Null Hypotheses
		Predictors	No.	Outcome	No.		
Independent Sample t-test	Nominal (Categorical)	Gender	1	Enrolling in PMSBY and PMJJBY	1	To know whether there is a statistically significant difference between the means of two unrelated groups.	H <sub>01</sub>
Cross Tabulations	Nominal (Categorical)	Non-Gender Demographics	5	Enrolling in PMSBY and PMJJBY	1	To know the relationships among two or more of the variables.	H <sub>02</sub>
Multiple Regressions	Interval	Financial Literacy & Uncertainty	2	Enrolling in PMSBY and PMJJBY	1	To predict the impact of two predictors on an outcome.	H <sub>03</sub> , H <sub>04</sub>

### Rationale for Statistical Tests

Tests	Type	Rationale
Independent Sample t test	Parametric	Population mean and population standard deviation is unknown, linearly related, sample size (n)>30, t-distribution is identical to the normal curve.
Cross Tabulations	Joint Probability Distribution	Random sample, independent observations, mutually exclusive row and column variable categories that include all observations, large expected frequencies.
Multiple Regressions	Parametric	Interval data, linearly related, sample size (n)>30, sampling distribution is bivariate and normally distributed.

### 3.6 Instrument Validation

The statistical tests have provided different types of validities and the external validity threats have been controlled by restricting the results for its generalization to those beyond study groups, settings and history (threats of selection, new settings treatment and history).

## 4. Findings

### 4.1 Descriptive Statistics

The study has found that a lion's share of the respondents are Hindus (91.2 percent), general (44 percent), have taken education up to graduation (35.2 percent), monthly income is INR .02 million and above

(48 percent), married (64.8 percent), are in the age group of 31-40 years (31.2 percent), are involved in service (42.4 percent), men (68 percent) with 2 to 4 members in the family (48.8 percent).

With respect to the *Importance of term insurance* factor, mean values have indicated that respondents conceptualised the importance of having term insurance with Average Mean = 3.89, S. D. = .90. Mean score for items ranged from 4.45 to 3.04. Results have indicated that with respect to *Principal Motivators* factor, mean values are: Average Mean = 3.91, S. D. = .90. Results have indicated that with respect to

*Principal Motivators* factor, mean score for items were ranging from 4.45 to 3.24 with the Average Mean = 3.91, S. D. = .90. With regard to the factor of *Secondary Motivators*, the Average Mean = 3.62, S. D. = .96. With regard to the factor of *Secondary Motivators*, mean score for items were ranging from 4.12 to 3.23 with the Average Mean = 3.62, S. D. = .96. With respect to *Term Insurance Flip* factor, mean values are: Average Mean = 3.93, S. D. = .80. Mean score for items have ranged from 4.37 to 3.55. The mean scores for *Financial Literacy* factor are: Average Mean = 3.92, S. D. = .89. Mean score for items have ranged from 4.32 to 3.73.



#### 4.2 Factor Analysis

The reliability of the interview schedule was checked using Cronbach's alpha, which was computed as .657. Cronbach's alpha was used to assess the degree of consistency between multiple measurements of a variable (Hair et

al. 2005). The Kaiser-Mayer-Olkin (KMO) measure of sampling adequacy (MSA) was computed as .736, exceeding the recommended value of 0.6, which indicated that the data is adequate for Factor analysis (Kaiser & Rice, 1974). The overall significance of correlation metrics

was tested with Bartlett Test of Sphericity (approx. Chi square =218.913 and significance at .000) which provided support for validity of the data set for conducting Factor analysis.

**Table 1: Factor Extracted through PCA**  
(Factors: Importance of Term Insurance, Principal Motivators, Secondary Motivators, Term Insurance Flips and Financial Literacy)

Factors	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.302	32.52	32.52	6.215	31.27	31.27	4.215	28.27	28.27
2	6.445	24.33	56.85	5.862	23.25	55.52	3.127	22.58	50.85
3	4.225	16.20	73.05	4.102	12.55	68.07	3.013	11.75	62.60
4	3.123	8.33	81.38	2.325	6.08	74.15	2.754	7.22	69.82
5	1.986	4.88	86.26	1.775	4.32	78.47	1.029	5.11	74.93

From Table 1, five factors were extracted having Eigen values greater than 1, as they explained approximately 86.26 percent of the total variables. This percentage of the variance was regarded as sufficient to represent the data (Pett, Lackey & Sullivan, 2003). An Eigen value of 1.00 or more is the most commonly used criterion for deciding among the factors (Bryant & Yarnold, 1995).

#### 4.3 Inferential Statistics

Inferential statistics are the numerical tactics for drawing conclusions about a study population based on the information obtained from the randomly chosen sample from that study population.

##### 4.3.1 Independent Sample t-test

To test whether respondents' gender has an influence in purchasing term insurance, Independent Sample t-test was adopted. Descriptive Statistics (Means and S. D.) scores for the two sub-groups - men and women - have

been computed in Table 2. In addition, the standard error (S.D. of sampling distribution) of men was computed as 1.138 (12.14/√85) and that of women was found to be 1.70. From Table-3, t-test was used in order to test the hypothesis. For this data, the Levine's test was found to be statistically non-significant as (p=.393>.05) and it read the top row labelled 'Equal variances assumed'. Here, two tailed value of p was computed as .03 < .05; hence, the result has significance i.e., H<sub>01</sub> was rejected.

**Table 2: Group Statistics of Respondents**

	Gender	n	Mean	S. D.	Std. Error of Mean
Decision to take Term Insurance	Men	85	140.68	12.14	1.138
	Women	40	133.23	10.80	1.70

**Table 3: Independent Sample's t-Test**

	Leven's test		t-test statistics					95% confidence interval of the difference	
	F	Sig.	t	d. f.	Sig. (2-tailed)	Mean Diff.	S. E. Diff.	Lower	Upper
Decision to take term insurance									
Equal variances assumed	.718	.393	1.53	123	.03	3.56	8.639	-4.37	26.12
Equal variances not assumed	-	-	.912	122	.13	3.56	8.639	-4.72	27.77

**4.3.2 Cross Tabulations**

The study has used cross tabulations at 5 percent significance level to measure the association between the respondents' non-gender demographics and their decision to take insurance coverage under PMSBY and PMJJBY which have produced significant results based on which the study is likely to reject  $H_{02}$  (Table 4).

**Table 4: Summary Results of Cross Tabulations\***

Variables		Results		
Non-Gender Demographics (Predictors)	Taking Term Insurance (Outcome)	Pearson's Chi-Square Value	Likelihood Ratio	Significance Value**
Income	PMSBY and PMJJBY	24.129	31.015	.000
Education	PMSBY and PMJJBY	32.258	42.550	.000
Age	PMSBY and PMJJBY	37.250	37.159	.000
Marital Status	PMSBY and PMJJBY	33.102	44.367	.000
Family Size	PMSBY and PMJJBY	37.152	40.298	.000

\*Authors' calculations, \*\* $p < .05$

**4.3.3 Regression Analysis**

Regression analysis was used for estimating the relationships among the variables of the study. In order to examine the extent to which financial literacy and uncertainty impacted their insurance purchase decision under PMSBY and PMJJBY, Multiple Regressions were used.

**Table 5: Model Summary<sup>c</sup>**

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Standard error of estimate	Change Statistics				
					R <sup>2</sup> Change	F Change	df1	df2	Sig. F Change
1	.604 <sup>a</sup>	.597	.590	62.53	.439	172.33	1	123	.000
2	.937 <sup>b</sup>	.929	.923	51.86	.332	111.68	2	122	.000

From Table 5, in Model 1, only financial literacy was applied as the predictor. Model 2 was referred when both the predictors were put in use. The column R represents the values of the multiple correlation coefficients between the predictors and the outcome. When only the first predictor was used, it resembled the simple correlation coefficient (.604). The next column  $R^2$  shows the proportion of variability in the outcome. For Model 1, its value stood as .597; this implies that financial

literacy contributed 59.7 percent of the outcome variation. With the inclusion of the second predictor (Model 2), this value has increased to 92.9 percent. So, financial literacy has contributed only 59.7 percent, and the balance 33.2 (92.9 – 59.7) percent is contributed by uncertainty. The adjusted  $R^2$  has provided an idea of how well the model has generalized and its value computed very close to  $R^2$ . In this model, the difference is negligible (.07 percent). In the change statistics, the

significance of  $R^2$  was tested using F-ratio for each of the blocks. Model 1 has caused  $R^2$  changes from 0 to .604, and this change has raised F-ratio to 172.33, significant  $p < .001$  [since it has one predictor (k) and sample size = 125]. The addition of the new predictor (Model 2) has caused  $R^2$  to increase by .332. Using  $R^2_{\text{change}}$ ,  $k_{\text{change}} = 2 - 1 = 1$ , the  $F_{\text{change}}$  was calculated as 111.68 ( $p < .001$ ). This increase indicated the difference caused by adding a new predictor in Model 2.

**Table 6: ANOVA<sup>c</sup> Results**

Model		Sum of Squares (SS)	d. f.	Mean Square [SS/d. f.]	F	Sig.
Model 1	Regression	456659.25	1	456659.25	94.216	.000*
	Residual	982596.48	123	7988.58		
	Total	1119857.25	124			
Model 2	Regression	827952.28	2	413976.14	104.211	.000*
	Residual	1042569.16	122	8545.64		
	Total	1870521.44	124			

Predictor: (Constant), financial literacy

Predictor: (Constant), financial literacy, uncertainty

Decisions to take term insurance

Table 6 has reported the analysis of variance (ANOVA) which has tested whether the model is significantly better in predicting the outcome or not. Specifically, from the table, the F-ratio has represented the ratio of the improvement in predicting the model fitness. For Model 1, the F-ratio was

computed as 94.216, ( $p < .001$ ). For the second model, it increased to 104.211, highly significant ( $p < .001$ ). It has drawn the conclusion that Model 1 has significantly improved the ability to predict the outcome, but Model 2 is even better and is likely to get support to reject  $H_{02}$ .

## 5. Discussion

Factor analyses have identified five underlying constructs which have explained the different motivating factors in taking term insurance under PMSBY and PMJJBY. High factor loadings have indicated statistically significant items. Table 7 has presented the summary results of the Factor Analysis and Descriptive Statistics.

**Table 7: Summary Results of Factor Analysis and Descriptive Statistics**

No.	Name of the Factors	No. of items	Cronbach's Alpha Value	Mean	S. D.
1	Importance of Term Insurance	5	.81	3.89	.90
2	Principal Motivators	6	.72	3.91	.90
3	Secondary Motivators	8	.72	3.62	.96
4	Term Insurance Flips	6	.51	3.93	.80
5	Financial Literacy	5	.64	3.92	.89



The outcome of Independent sample t-test was validated in favour of probably rejecting  $H_{01}$  and the research hypothesis that gender of the respondents has a significant influence on the decision to take term insurance is likely to be accepted. The association with non-gender demographics and the decision to take term insurance was tested using cross-tabulations and the results indicate that they have statistical significance; hence, the study has rejected  $H_{02}$ . To test whether financial literacy and uncertainty have any influence in taking coverage under PMSBY and PMJJBY, the study has conducted multiple regressions and the findings have pointed out to the probability of rejecting  $H_{03}$  and  $H_{04}$ .

Earlier studies have documented that globally, social security schemes were largely skewed and a substantial portion of the population was not covered (Van Ginneken, 2007; Devadasan et al. 2006; Drechsler & Ju"tting, 2005; Hall & Midgley, 2004; Okello & Feeley, 2004; Beattie, 2000; Van Ginneken, 1999). India is not an exception as its social security schemes suffer from multiple problems (Sluchynsky, 2015; Pino & Badini Confalonieri, 2014; Chen & Turner, 2014). Both of the stated schemes address the objectives of social insurance like consumption smoothing, reduction of poverty risks, reduction of income risk due to physical incapacity, safeguarding insurability and risk reduction. It is evident that the success of the schemes is directly linked with real financial inclusion, which will be achieved systematically. Low banking penetration in rural areas along with red tapism need to be adequately addressed by liberalising banking norms, recruiting banking correspondents, widening mobile banking networks as well as payment banks, sensitisation to ensure the continuation of demand side pull effect and to arrange awareness

programs to encourage the unbanked population to bring them within the fold of the formal banking orchestra vis-à-vis PMSBY and PMJJBY.

## 6. Conclusions

The study was undertaken to discover the attributes for taking term insurance under PMSBY and PMJJBY. Based on review of literature, a conceptual model was framed from which five research hypotheses along with their null forms were deduced. Using an interview format, primary data from 125 respondents was collected which, subsequently was processed through IBM SPSS-20. The data set was tested for its validity, reliability and sample adequacy. The data dimension test extracted five factors; different parametric tests were applied to test the null hypotheses and the outcomes documented rejected all of them; hence, the study accepted the research hypotheses.

The study has limitations which have been acknowledged as follows. *Firstly*, the sample of respondents may not be a proxy for the entire study population. *Secondly*, in line with the objectives, only impressing factors for taking term insurance under PMSBY and PMJJBY have been taken as variables and other variables have been excluded from the scope of the study, which has confined the generalization of the findings. *Thirdly*, the study has taken a modest sample size and the samples have been selected from a small area due to time and resource constraints. *Fourthly*, the validity of the results is based on the responses, which perhaps, may be biased. *Finally*, the different statistical techniques used have their own limitations, which may restrict the generalization of the findings.

The outcome of the study has relevance for existing and potential insurers of the schemes in a number

of ways. *Firstly*, the significant influence of prevailing demographics and financials in term insurance demand has been highlighted in the study. *Secondly*, the untapped market with uninsured customers may be targeted by the insurers to bring them within the ambit of the schemes based on the determinants highlighted in the study. *Thirdly*, the policymakers could use the results in designing a proper marketing communication strategy for expanding their customer base. *Finally*, since both the policies can only be taken by savings bank account holders, the schemes would work as a proxy for financial inclusion and encourage the unbanked population to join the formal banking system which, in turn, would not only add the number of accounts for banks but would also boost their bottom lines.

In future, intra-district, inter-district and inter-state studies may be undertaken. Studies may also be attempted on a wider scale by considering a larger study population, sampling frame and greater sample size to validate the differences between the customers' expectations and insurers' offerings of term plans. Literature has validated the influence of different variables like emotions (Rustichini, 2005), reference group effects (Duflo & Saez, 2002), word of mouth (Brown et al. 2008), the herding behaviour of others (Banerjee, 1992), social impact (Kaustia & Knupfer, 2012), religious affiliations (Browne & Kim, 1993), premium rates (Browne & Kim, 1993), work ethics (Burnett & Palmer, 1984), impact of culture (Hwang & Greenford, 2005) and access to information (Li, 2014) in demand for insurance which have been excluded in this study; these may be incorporated in future endeavours.

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