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 (Inkmann & 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; Heclo, 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
(Surarathethea 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 & Gaia, 2012;
Svedberg, 2012; Arora, 2011; Johnson
& Kumar, 2011; Reddy, 2011;
Palacios, 2011; Jha et al. 2009;
Kuruvilla & Liu, 2007; Mooji & Dev,
2004; Jalan & Ravallion, 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; Sunita &
Pugazhenthi, 2014; Yelliah, 2013;
Forgia & Naggal, 2012; Same & 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
collided 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 (Gandolli & Miners,
1996); the positive significance of
education (Inkmann & 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 (Inkmann & 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 sense of uncertainty is a
significant motivator for taking term plans, which has also
been validated in the literature (Pratt,
1964; Mosin, 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 (Gandolli & Miners,
1996) and women have purchased
less insurance than men (Alborn,
2009; Grover & Palacios, 2011). This
study hypothesised that:

\[ H_{01} : \text{Gender does not influence the insurance decision.} \]

\[ H_{11} : \text{Gender influences the insurance decision.} \]

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 (Bereksoson, 1972; Showers & Shotick 1994; Truett, 1990); negatively (Taur & 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 (Duck, 196a, Anderson & Nevin, 1975). So it is hypothesised that:

- H_{01}: Non-gender demographics do not influence insurance decisions.
- H_{02}: 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, Bartholomew, & 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_{03}: Financial literacy does not influence insurance decisions.
- H_{04}: 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; Koulopoulos & 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_{05}: Uncertainty does not influence insurance decisions.
- H_{06}: Uncertainty influences insurance decisions.

Fig: 1 Conceptual Model of PMSBY and PMJJBY

Predictors

Gender

Non-Gender
Demographics

H_{01}

H_{02}

Financial Literacy

Uncertainty

Decision to take Term Insurance
(Outcome)

H_{03}

H_{04}
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% (α).

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 (Mitchelmore & 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:
### 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 \( \text{Principal Motivators} \) 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.

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

#### Rationale for Statistical Tests

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

<table>
<thead>
<tr>
<th>Factors</th>
<th>Initial Eigen values</th>
<th>Extraction Sums of Squared Loadings</th>
<th>Rotation Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total % of Variance</td>
<td>Cumulative %</td>
<td>Total % of Variance</td>
</tr>
<tr>
<td>1</td>
<td>7.302</td>
<td>32.52</td>
<td>32.52</td>
</tr>
<tr>
<td>2</td>
<td>6.445</td>
<td>24.33</td>
<td>56.85</td>
</tr>
<tr>
<td>3</td>
<td>4.225</td>
<td>16.20</td>
<td>73.05</td>
</tr>
<tr>
<td>4</td>
<td>3.123</td>
<td>8.33</td>
<td>81.38</td>
</tr>
<tr>
<td>5</td>
<td>1.986</td>
<td>4.88</td>
<td>86.26</td>
</tr>
</tbody>
</table>

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., H₀ was rejected.

Table 2: Group Statistics of Respondents

<table>
<thead>
<tr>
<th>Variables</th>
<th>Gender</th>
<th>n</th>
<th>Mean</th>
<th>S. D.</th>
<th>Std. Error of Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision to take Term Insurance</td>
<td>Men</td>
<td>85</td>
<td>140.68</td>
<td>12.14</td>
<td>1.138</td>
</tr>
<tr>
<td></td>
<td>Women</td>
<td>40</td>
<td>133.23</td>
<td>10.80</td>
<td>1.70</td>
</tr>
</tbody>
</table>
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 $H_0$ (Table 4).

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

*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>
<thead>
<tr>
<th>Model</th>
<th>$R$</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Standard error of estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$R^2$ Change</td>
</tr>
<tr>
<td>1</td>
<td>.604$^a$</td>
<td>.597</td>
<td>.590</td>
<td>62.53</td>
<td>.439</td>
</tr>
<tr>
<td>2</td>
<td>.937$^b$</td>
<td>.929</td>
<td>.923</td>
<td>51.86</td>
<td>.332</td>
</tr>
</tbody>
</table>
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 R² 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 R² has provided an idea of how well the model has generalized and its value computed very close to R². In this model, the difference is negligible (.07 percent).

In the change statistics, the difference is negligible (.07 percent). The adjusted R² has provided an idea of how well the model has explained the different motivating factors for taking term insurance under PMSBY and PMJJBY. High factor loadings have indicated the significance of R² was tested using F-ratio for each of the blocks. Model 1 has caused R² 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 R² to increase by .332. Using \( R_{change}^2 = \frac{k}{n-k-1} = 1 \), the \( F_{change} \) was calculated as 111.68 (p<.001). This increase indicated the difference caused by adding a new predictor in Model 2.

### Table 6: ANOVA Results

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares (SS)</th>
<th>d. f.</th>
<th>Mean Square [SS/d. f.]</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model 1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression</td>
<td>456659.25</td>
<td>1</td>
<td>456659.25</td>
<td>94.216</td>
<td>.000*</td>
</tr>
<tr>
<td>Residual</td>
<td>982596.48</td>
<td>123</td>
<td>7988.58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1119857.25</td>
<td>124</td>
<td>9.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Model 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression</td>
<td>827952.28</td>
<td>2</td>
<td>413976.14</td>
<td>104.211</td>
<td>.000*</td>
</tr>
<tr>
<td>Residual</td>
<td>1042569.16</td>
<td>122</td>
<td>8545.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1870521.44</td>
<td>124</td>
<td>84.44</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 \( H_0 \).

### 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

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of the Factors</th>
<th>No. of items</th>
<th>Cronbach’s Alpha Value</th>
<th>Mean</th>
<th>S. D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Importance of Term Insurance</td>
<td>5</td>
<td>.81</td>
<td>3.89</td>
<td>.90</td>
</tr>
<tr>
<td>2</td>
<td>Principal Motivators</td>
<td>6</td>
<td>.72</td>
<td>3.91</td>
<td>.90</td>
</tr>
<tr>
<td>3</td>
<td>Secondary Motivators</td>
<td>8</td>
<td>.72</td>
<td>3.62</td>
<td>.96</td>
</tr>
<tr>
<td>4</td>
<td>Term Insurance Flips</td>
<td>6</td>
<td>.51</td>
<td>3.93</td>
<td>.80</td>
</tr>
<tr>
<td>5</td>
<td>Financial Literacy</td>
<td>5</td>
<td>.64</td>
<td>3.92</td>
<td>.89</td>
</tr>
</tbody>
</table>
The outcome of Independent sample t-test was validated in favour of probably rejecting $H_0$, 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 $H_0$. 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 $H_0$ and $H_a$.

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 ‘ting, 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 tapeism 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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