

Empirical Study of Demographic Inequalities in Indian Life Insurance Industry

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ABSTRACT

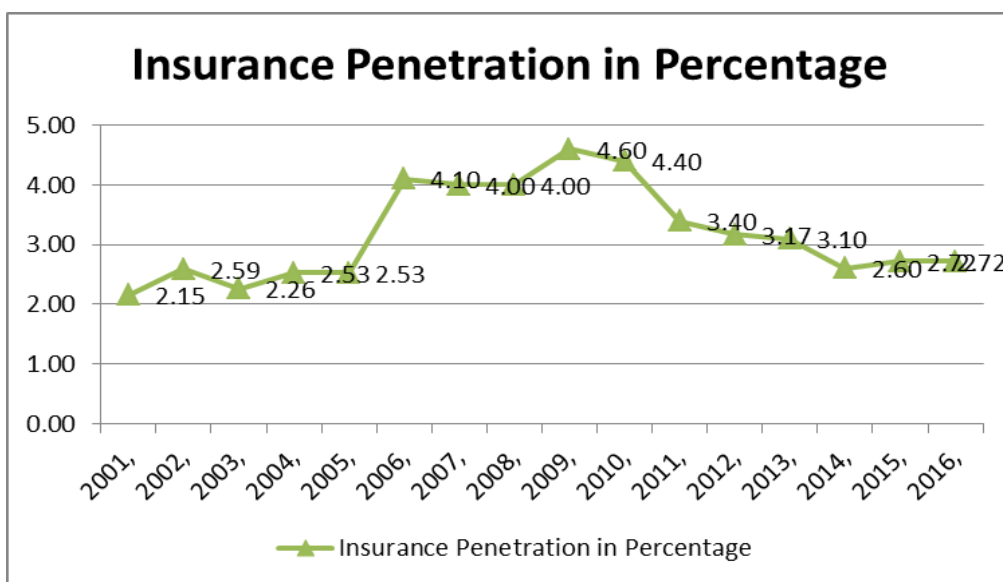
Even after more than one and half decade of privatization and insurance sector reforms, out of the total 650 districts in India 34 districts still have no life insurance offices till now (IRDA report 2016–17), it is the significant inequality in terms of geographical location. Life insurance provides financial security in case of sudden loss of income due to some unforeseen accident. Although it's the basic need of the society but still life insurance penetration and density is dropping in India since the year 2010.

Major cause behind such drop in life insurance penetration is prevailing inequalities in the life insurance based on customer's gender, age, income, occupation, education and residential status. This research paper has the purpose to understand the prevailing inequalities present in Indian life insurance industry based on customer's demographics. Survey of 502 customers is done in the city of Lucknow. Questions were asked related to demographic profile and the possession (either customer has the life insurance or is likely to buy it in near future) of life insurance policy with customers. Data is collected and analyzed using SPSS. It's found that 21% households had no life insurance policy. Possession of life insurance policy is found to be significantly varying with respect to customer's age, income, occupation and residential status. Finding reveals that policy-makers must design the products and policies based on the customer's demographic which plays a significant role in this service driven industry.

1. Introduction

Post privatization of life insurance industry in India in the year 2000 life insurance penetration and density upraised in India due to launch of Unit linked insurance policies (ULIP)

policies in Indian markets. Still life insurance penetration started dipping since 2007-08.



(Source: I.R.D.A. annual report 2016-17)

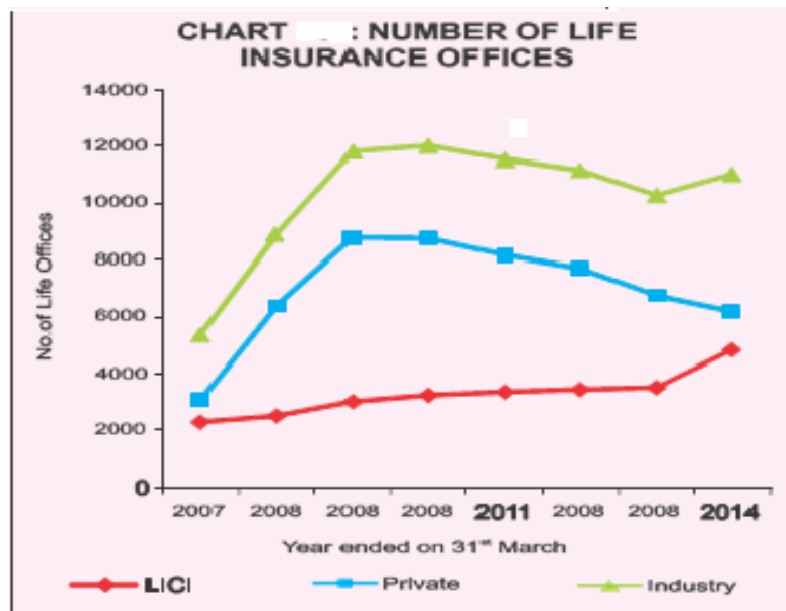
Figure 1: Trend of insurance penetration

Figure 1 exhibits that life insurance penetration rises till 2010 and attains a maximum value of after that there has been a continuous decline.

2. Significance of the study

The number of districts with no presence of life insurance offices stood at 36 in the country. Out of these, 23 districts

belong to the six of the north eastern states namely Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Sikkim. Only in 21 states/union territories (out of a total of 35 states/union territories in the country), all their districts were covered through life insurance offices. (IRDA Report 2014–15). It is shown in the following figure 2–



(Source: I.R.D.A. annual report 2014-15)

Figure 2: Number of life insurance offices

As per figure 2, inequalities in term of number of insurance offices are very significant in terms of geographical location. This inequality becomes very significant with respect to demographic profiles of different customers. Therefore it's quite significant to understand the inequalities in Life insurance sector with different customer demographics for higher level of insurance penetration and density.

3. Scope of the study

Study covers the inequalities in life insurance sector based on geographical location, and customer demographics. Study may further be extended to study the inequalities in micro insurance sector or different inequalities in public and private sector insurance companies.

4. Objective of the study

Following are the objectives:

1. To understand current status of the geographical presence of life insurance offices in India.
2. To estimate the possession of life insurance policy by the households of city of Lucknow.
3. To explore the inequalities in terms of possession of life insurance policies with customer's demographics (age, income, gender, education, occupation and residential status.)

5. Review of literature

Tomithi (2017) explained that extent to which there are racial disparities in life insurance coverage using multiple years of the Survey of Income and Program Participation between 2001 and 2010. It is found that African Americans hold significantly more life insurance especially whole life insurance after controlling for other factors, which is the main inequality. **Kitao (2014)** explained that general equilibrium life-cycle model is developed, in which individuals choose a sequence of saving and labor supply faced with search frictions and uncertainty in

longevity, health status and medical expenditures resulting in considerable inequality. **Zerriaa (2016)** this paper investigates the determinants of life insurance consumption in the Middle East and North Africa (MENA) region using a sample of 17 countries over the period 2000–2012. **Lee (2013)** used two measures of life insurance demand: insurance density and insurance penetration. The research results suggest that consumption increases with income, inflation and interest rates. It's determined that the development of life insurance markets and economic growth exhibit long-run and short-run bidirectional causalities. These findings offer several useful insights for policy-makers and researchers in removing inequalities. **Singh (2014)** explained that economic performance of insurance companies is the outcome of customer's satisfaction and their perception on service quality of the insurance service provider. **Tan, (2014)** analyzed demand for life insurance in Malaysia using household expenditure survey data. Wealth and education levels are associated with purchase likelihoods and amount of life insurance premiums purchased across ethnic groups. However, household size, regional location, urbanicity, and occupation type are associated with life insurance demand. **Outreville (2014)** in their study found that risk aversion, risk behavior, and demand for insurance: A survey. Determinants of risk attitudes of individuals are of great interest in the growing area of behavioral economics that focuses on the individual attributes, psychological or otherwise, that shape common financial and investment practices. The purpose of this paper is to review the empirical literature on risk aversion (and risk behavior). The empirical analysis of socio-demographic variables associated with risk aversion. The paper reviews this literature as well as empirical studies on the demand for insurance considering the use of variables associated with relative risk aversion. **Eling, (2014)** Studied the determinants of microinsurance demand and found that—through comparison with literature on traditional insurance demand, opportunities will be to understand not only the microinsurance market better, but also the traditional market.

Sarkodie, (2015) explored that correct product and commitment must be there to revive the Life industry by removing inequalities. **Mahdzan, (2013)** found that the determinants of life insurance demand on saving motives and financial literacy. Financial literacy has come up and explains income, education, residential status as the driver of life insurance demand. **Vitanova, et al, (2014)**. Explained that Life Insurance in Republic of Macedonia depends on many factors that age, wellbeing, income and occupation and such inequalities should be reduced. **Shukla (2017)** described Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) as a step ahead towards increasing life insurance penetration and density in India for inclusive growth by reducing income inequalities. **Shukla (2015) analyzed that** Fundamental reengineering for endurance in competitive market by life insurance Corporation of India is an exemplary case to remove inequities in life insurance.

6. Research Methodology

To test the above mentioned hypothesis following research methodology is developed-

- **Research Design:** Descriptive research design is used to describe the current situation of Indian life insurance penetration and density industry based upon historical data available from I.R.D.A. reports and available literature. Primary data is collected from the customer survey and is further analyzed using analytical research design.
- **Data Source:** Secondary data is collected from I.R.D.A. Annual report of financial year: 2014-2015, Primary data is collected through well-structured questionnaire and customer survey.
- **Area of study:** City of Lucknow, Uttar Pradesh, India
- **Sample Unit:** As bank account is the basic prerequisite to buy the life insurance policy, therefore Individuals of different income groups having bank account has been taken as the sample unit.
- **Sample size determination-**
 The sample size is determined by $N = (Z^2 * \sigma^2) / e^2$
 $Z = 1.96$ at 95% confidence level. Precision level (e) = 0.20, $\sigma \leq 5 - 1/2 =$ (For the Likert scale of 5) hence $N = (1.96^2 * 2^2) / (0.20)^2 = 384.16$

520 responses through well-structured questionnaires were collected and out of which 502 were complete and found suitable for study,.

- **Sampling technique:** Stratified random sampling is used in the study. Strata of Low income group having income less than or equal to Rs.2 lakhs, medium income group having income between Rs.2.1 lakhs to 10 lakhs and higher income group having income more than 10 lakhs are made.
- **Hypothesis (Ho):** Possession of life insurance does not have any significant difference with customer demographics like- Age, Income, Occupation, Gender, Education and Residential status.

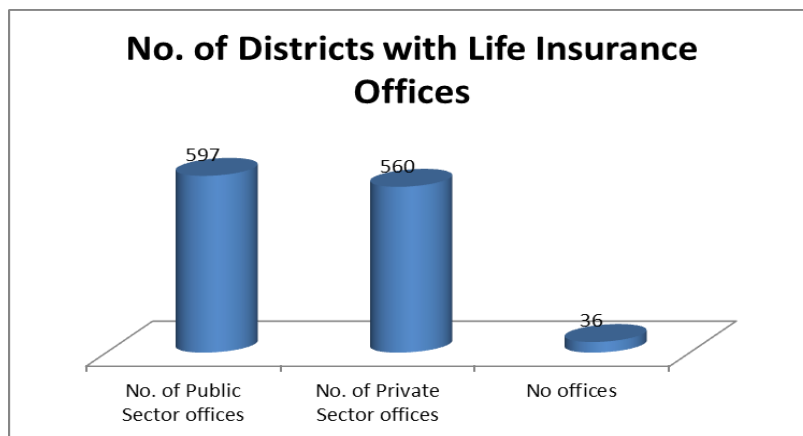
7. Analysis

Analysis is done in following subparts for the convenience of understanding

- I. Analysis of current status of inequalities in the spread of life insurance offices.
- II. Analysis of possession of Life insurance policy by Indian Household.
- III. Inequalities in terms of possession of life insurance policies with customer’s demographics.

7.1 Analysis of current status of inequalities in the spread of life insurance offices.

As at 31st March, 2014, the sole public sector life insurer, LIC of India had its offices in 597 districts out of 640 districts (As per the Decennial Census -2011) in the country. As such, it covered 93.28 per cent of all districts in the country, whereas the private sector insurers had offices in 560 districts covering 87.50 per cent of all districts in the country. In total, both LIC and private insurers together covered 94.37 per cent of all districts in the country. The number of districts with no presence of life insurance offices stood at 36 in the country. Out of these, 23 districts belong to the six of the north eastern states namely Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Sikkim. In 21 states/union territories (out of a total of 35 states/union territories in the country), all their districts were covered through life insurance offices (IRDA annual report 2014–15).



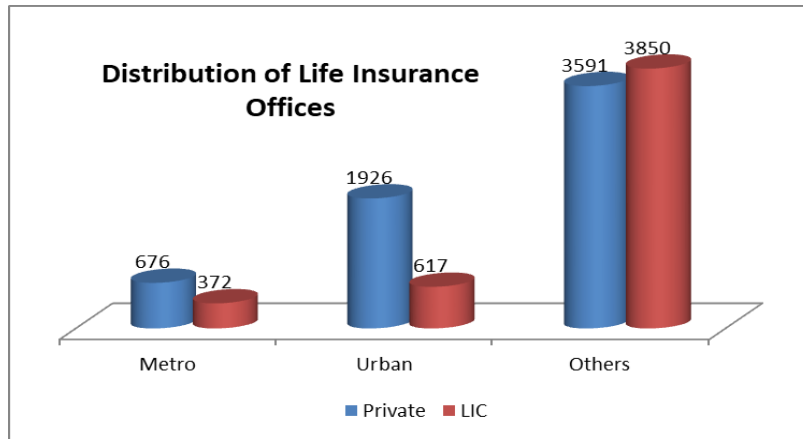
Source: IRDA Report 2014–15
 Figure 3: No. of Districts with Life Insurance Offices

Thus it's clear from the above Figure 3 that there are inequalities in number of life insurance offices among public sector offices and even such 36 districts have not even a single branch of life insurance.

Following statistics would help clear the inequalities in distribution of life insurance offices.

Table 1: Distribution of Life Insurance offices-

DISTRIBUTION OF OFFICES OF LIFE INSURERS				
NUMBER OF LIFE OFFICES				
(As on 31 st March, 2014)				
Insurer	Metro	Urban	Others	Total
Private##	676	1926	3591	6193
LICI #	372	617	3850	4839
Industry	1048	2543	7441	11032



Data Source: IRDA Annual Reports:2014–15
Figure 4: Distribution of Life Insurance Offices

Table 1 and Figure 4 exhibits that private sector have more concentration in Metro and Urban cities than public sector company LIC. It's found as major inequality as rural India needs more insurance due to higher mortality rate in villages due to lack of health facilities.

Analysis of possession of life insurance policy with Indian Household is exhibited in the following table based on the survey results.

7.2 Analysis of possession of Life insurance policy by Indian households-

Table 2: Availably of life insurance with Indian households

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	395	78.7	78.7	78.7
	No	107	21.3	21.3	100.0
	Total	502	100.0	100.0	

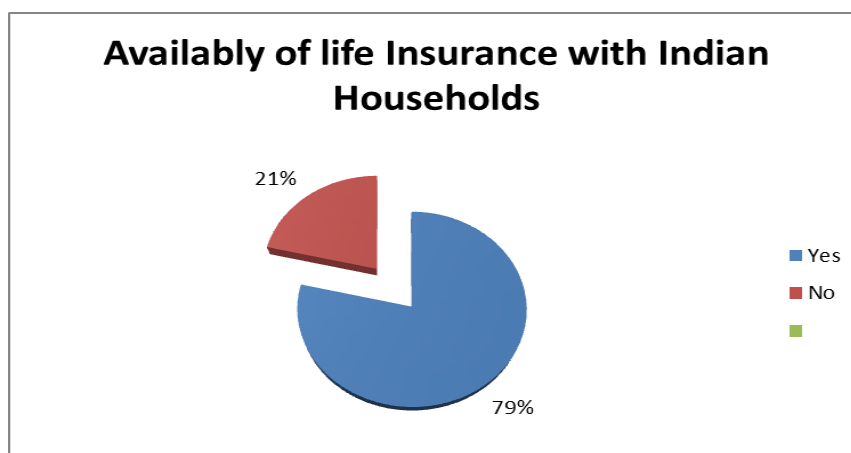


Figure 5: Possession of Life Insurance with Indian Households

It's clear from the above table 2 and figure 5 that still 21% households with bank account have neither any life insurance policy nor they any interest to buy it in near future.

7.3 Analysis of Inequalities in terms of possession of life insurance policies with customer's demographics-
ANOVA technique is used to test the following hypothesis

Hypothesis (Ho): Possession of life insurance does not have any significant difference with customer demographics

like- Age, Income, Occupation, Gender, Education and Residential status.

Before running the ANOVA, test of homogeneity (refer table no.) and test of normalcy is conducted. Data is found to be bell shaped and the Homogeneity of Variances matrix becomes insignificant indicating homogeneity of variance.

Table : 3. Test of Homogeneity of Variances

Possession of life insurance

Levene Statistic	df1	df2	Sig.
10.009	1	500	.102*

*As the p values are greater than .05 hence it is non-significant, which confirms that variance is homogeneous and ANOVA may be run further.

Table 4: ANOVA

Variance of possession of life insurance with Gender

	Sum Squares	df	Mean Square	F	Sig.
Between Groups	0.449	1	0.449	2.683	0.201
Within Groups	83.744	500	0.167		
Total	84.193	501			

Variance of possession of life insurance with Age

Between Groups	3.637	4	0.909	5.609	0.000*
Within Groups	80.557	497	0.162		
Total	84.193	501			

Variance of possession of life insurance with Education

Between Groups	1.852	4	0.463	2.795	0.026*
Within Groups	82.341	497	0.166		
Total	84.193	501			

Variance of possession of life insurance with Residential Status

Between Groups	2.97	1	2.97	18.28	0.000*
Within Groups	81.224	500	0.162		
Total	84.193	501			

Variance of possession of life insurance with Income

Between Groups	3.771	3	1.257	7.783	0.000*
Within Groups	80.423	498	0.161		
Total	84.193	501			

Variance of possession of life insurance with Occupation

Between Groups	5.62	5	1.124	7.095	0.000*
Within Groups	78.573	496	0.158		
Total	84.193	501			

*Thus ANOVA remains significant as p values= $\leq .05$, therefore it is concluded that there is significant difference resulting into considerable inequalities in terms of customer

demographics. These inequalities in possession of life insurance with respect to customers are as described as following-

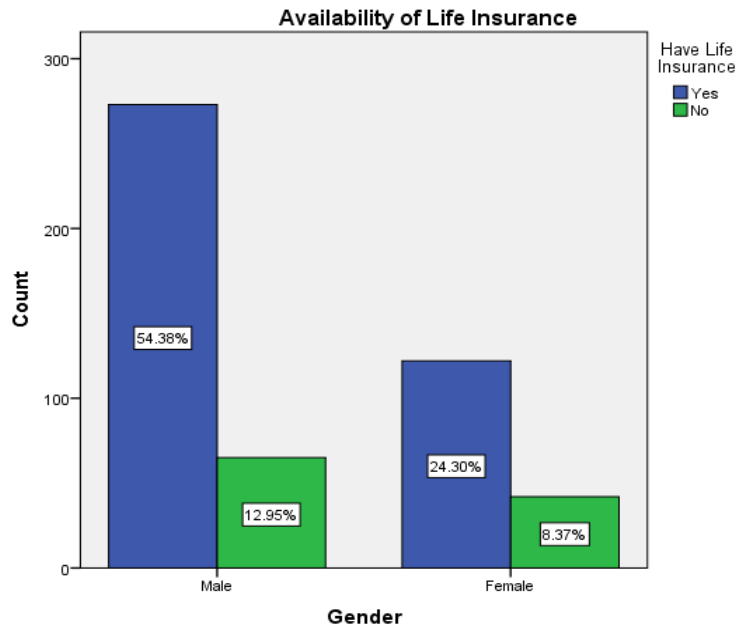


Figure 6: Possession of Life Insurance with Gender

Figure 6 confirms, against 12.95% of males don't have of life insurance whereas 8.37% females don't have the life insurance which is a considerable inequality.

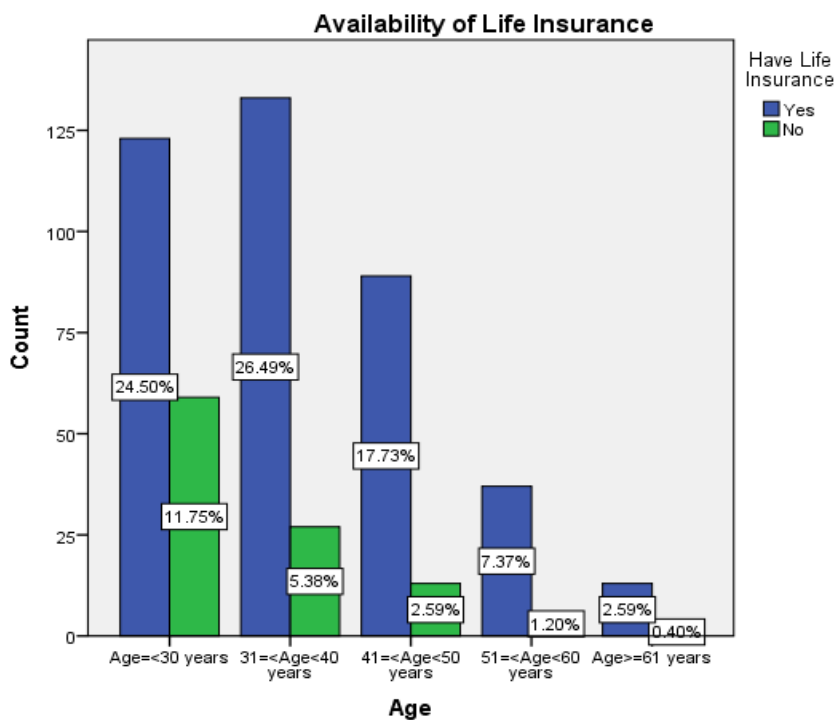


Figure 7: Possession of Life Insurance with Age

Figure 7 shows that significant inequality with respect to age and reveals that 17% individuals in lower age group below

40 years neither have any insurance policy nor they intend to buy in near future.

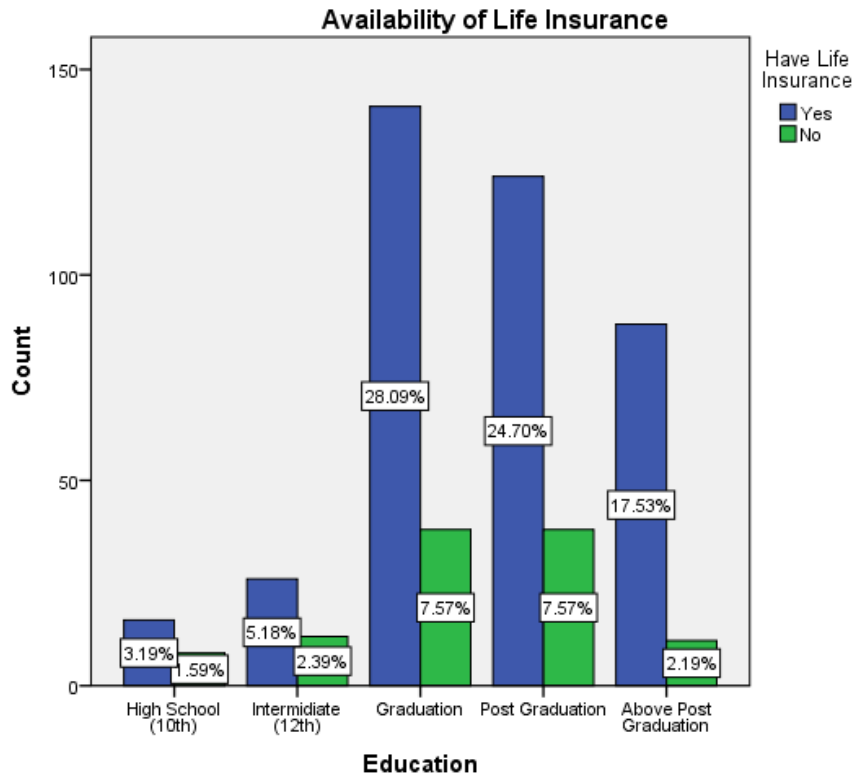


Figure 8: Possession of Life Insurance with Education

Figure 8 shows significant inequality with respect to education. It reveals that 7.57% graduates and 7.5 % of post

graduates neither have any insurance policy nor do they intend to buy in near future.

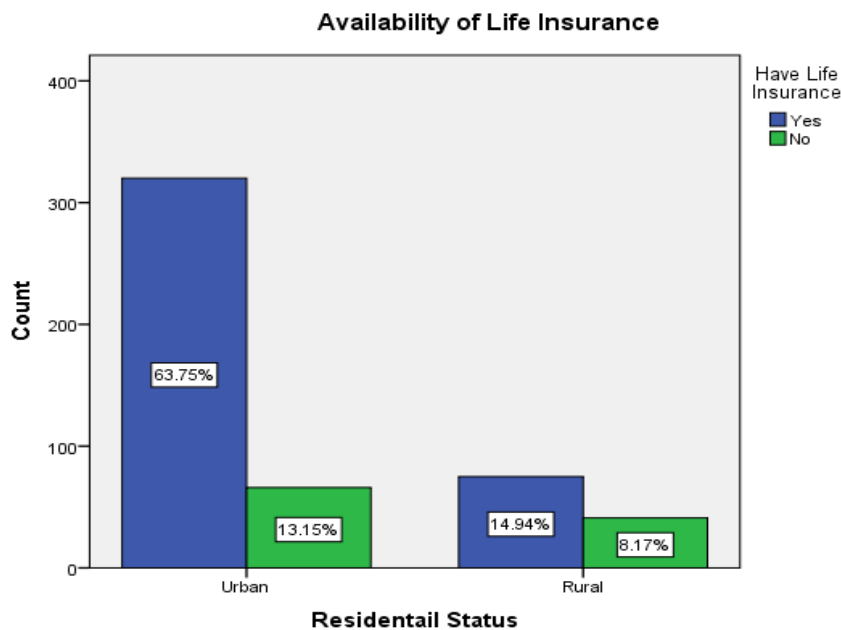


Figure 9: Possession of Life Insurance with Residential Status

Figure 9 confirms significant inequality with respect to Residential status that 13.15% urban individuals and 8.17 % of

rural customers neither have any insurance policy nor do they intend to buy in near future.

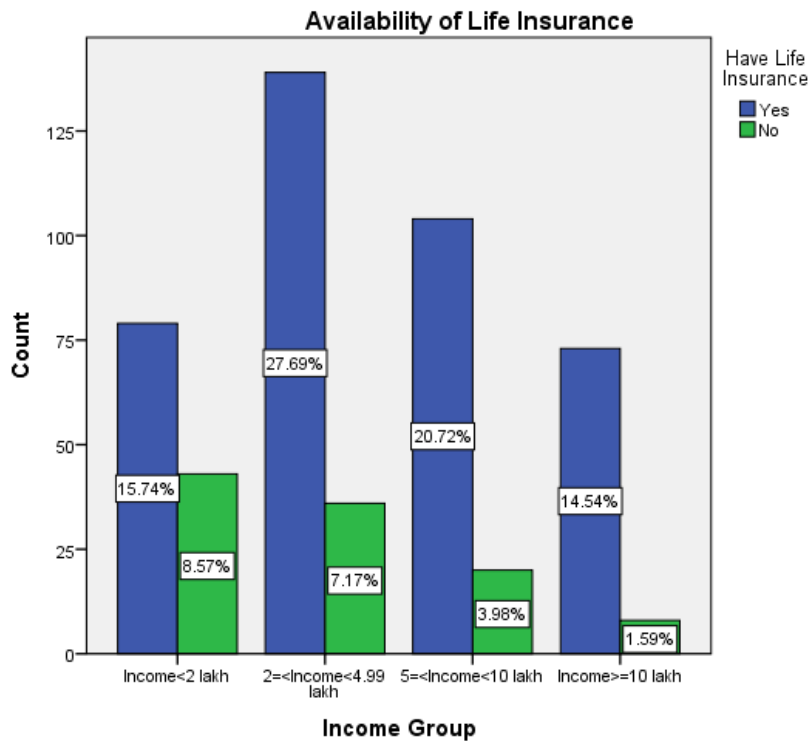


Figure 10: Possession of Life Insurance with Income

Figure 10 exhibits that significant inequality with respect to income, across all the income groups.

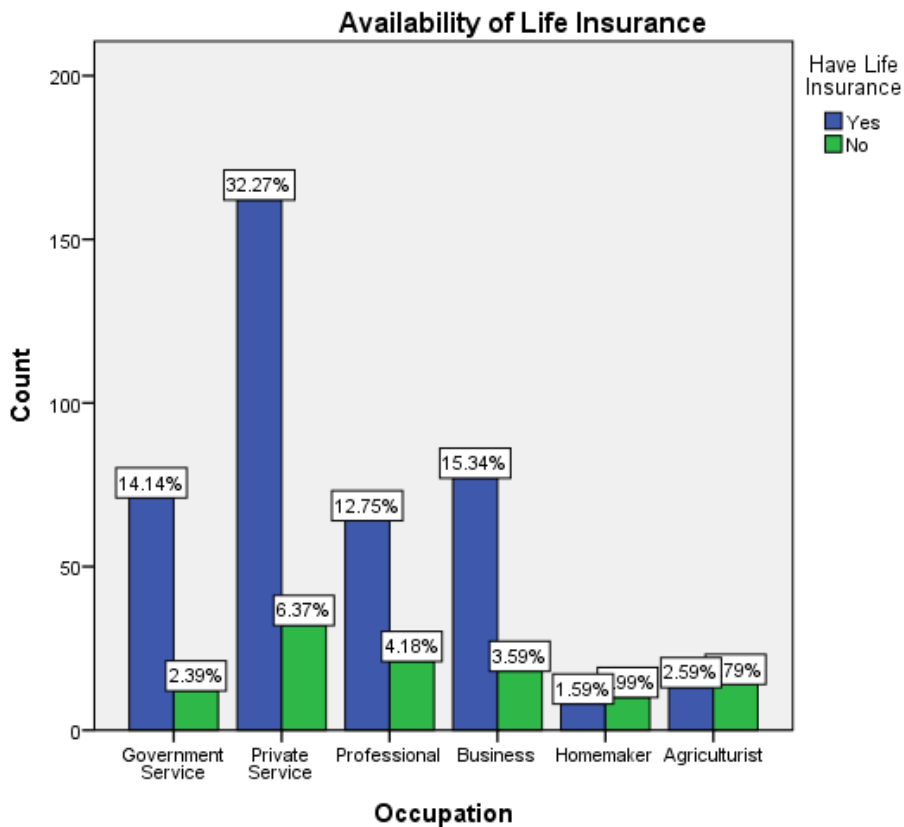


Figure 11: Possession of Life Insurance with Occupation

Figure 11 exhibits significant inequality with respect to occupation, that private sector employees and professionals have highest percentage of such individuals having no

insurance policy, resulting into greater inequality with respect to occupation.

8. Recommendations

- Life Insurance offices (Branches) offices should be opened in north-east part of India as there are still in 36 districts with no life insurance office.
- Private life insurers are concentrated in urban areas primarily, whereas Life Insurance Corporation of India (LIC) is more focused towards rural penetration of life insurance. More number of small Life insurance offices by private companies should be opened on trial basis to monitor the success and to remove the inequalities.
- Still 21% individuals are such who don't have any life insurance policy; this population should be served with various innovative and cost effective products, for increased penetration.
- Possession of life insurance is not significant with gender, but there is found significant variance with income, age, residential status, education and occupation. Therefore life insurance policies must be customized based on the customers need as per its demographic profile.
- Individuals with lower age group below 40 years, have least number of policies, such individuals must be informed about of the benefits of taking life insurance at an early age.
- Individual households must be pitched the policy as per their needs. More focus must be given to the customers having no Insurance policy particularly like individuals at undergraduate level must be provided with term policy, or wealth creation policy to penetrate these markets as well.

- Rural marketing of life insurance must be done so that it can be sold in rural markets as well. Rural customers should be provided pension products along with cash back policy to meet out their short term obligations.
- Individuals having annual income of more than 1000000 per annum, must be given basic product with layers of augmented benefits, like accidental coverage(Free), quick claim settlements.
- Customers in private jobs must be given simple term product to get sufficient insurance coverage at reasonable cost.

9. Conclusion

Life insurance industry in India is still undergoing geographical inequalities in terms of lowest distribution of offices in North-East India with 36 such districts having no life insurance offices. Along with geographical inequalities, inequalities in possession of Life insurance with respect to customer's age, Income, education occupation and residential status is significant. Policy makers must keep the demographic preferences of the customers particularly their age, income and education in mind while making the policy to reduce upon these inequalities for inclusive growth and sustainable Life Insurance industry. Study may be further extended to explore various factors responsible for such inequalities. But considering the long term impact of Demonetization and Goods & Service Tax (GST), India appears to have progressive future of life insurance industry in coming years.

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