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Theme: Financing Retirement in the 2020s and Beyond  
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Understanding the old age financial stress and retirement planning of  
workers in the MSME sector in India

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Acknowledgement

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- India is the second most populated country in the world
- maximum young population at present
- has a tremendous burden of providing old age security



- Around 30 million central and state government employees are covered under a defined benefit pension program that is tax-funded

(CMIE, 2021)

- Public expenditure on pension and other retirement benefits of the Central Government alone is budgeted around INR 480 billion (around \$ 6.47 billion) in 2019-2020 (MoF).



- India estimated to have a total workforce of 450 million;
- The majority (93%) of the working population in India is employed in the unorganised or informal sector. (Economic Survey 2018-19).
- 418.5 million (93 per cent of 450 million) are employed in the unorganised sector of the country



- During the last 20 years, India is in a state of ***“informalisation of the formal sector”***  
the growth of organized sector employment has been informal

(NCEUS, 2009).

### Employment Distribution – Organised and Unorganised (in %)

Workers	2011-12			2017-18		
	Unorganised	Organised	Total	Unorganised	Organised	Total
Informal	82.6	9.8	92.4	85.5	5.2	90.7
Formal	0.4	7.2	7.6	1.3	7.9	9.3
Total	83.0	17.0	100	86.8	13.2	100

Source: NSS 68th unit level data on employment unemployment, 2011-12; Periodic Labour Force Survey, 2017-18; Murthy (2019).



# Social Security System in India

- (1) The civil service schemes,
- (2) The employee provident fund organization EPFO,
- (3) The Scheme of public enterprises,
- (4) Superannuation plans of the corporate sector,
- (5) Voluntary tax-advantaged schemes,
- (6) Social assistance schemes, and
- (7) micro-pension schemes.



# Schemes for the Unorganized Sector

- Public Provident Fund (PPF) in June 1968
- Self-Employed Women's Association (SEWA), The Working Women's Forum India (WWF), the Mathadi Workers Boards (MWB), SAMAKHYA, the Association of Sarwa Sewa Farms (ASSF), Co-operative Development Foundation (CDF), Trivandrum District Fishermen Federation (TDFF), the Society for Promotion of Area Resources Centre (SPARC), Voluntary Health Services (VHS) etc.
- UTI's Retirement Benefit Pension" (UTI RBP) fund for low-income people in 2006.



# Pension Reforms in India

- National Pension System (NPS) for the Central Government employees joining on or after January 1, 2004, on a mandatory basis.
- By the end of March 2021, there were 7.3 million employees of central and state government are registered with the contributory NPS.
- NPS-Lite/Swavlamban scheme extended for Unorganised sector in September, 2010. (discontinued w.e.f 01.04.2015)
- Atal Pension Yojana (APY), was launched on May, 2015 (guaranteed pension scheme)





# Pension Coverage in India (Unorganised)

## Number of Subscribers of NPS Lite and APY

S.N.	Sector	No. of Subscribers (in Million)			Growth (%)
		31-Mar-19	31-Mar-20	31-Mar-21	YOY
A	NPS Lite	4.363	4.332	4.302	-0.69
B	APY	14.953	21.142	28.049	32.67
C	<b>Sub Total (A+B)</b>	19.316	<b>25.474</b>	<b>32.351</b>	<b>26.99%</b>

### 2019

- (1) Pradhan Mantri Shram Yogi Maan-dhan Yojna, (PM-SYM), (4.4 million by 2021)
- (2) National Pension Scheme for the Traders and Self-Employed Persons Yojana.



# Total Pension Coverage in India

- Central Government, state government, quasi-government bodies, local bodies and organised private sector, is 30 million (CMIE, 2021)

Sector		Numbers
Organised Sector	central Government, state government, quasi-government bodies, local bodies and organised private sector (NPS)	30 million
Unorganised Sector	NPS + PM-SYM+ Others	36.75million
Total		66.75million

- The total working population of India, is estimated 450 million.
- Total Pension Coverage **14.83%** (as on March 2021).
- Overall, almost **85%** working population in India doesn't have any pension coverage by the end of March 2021.

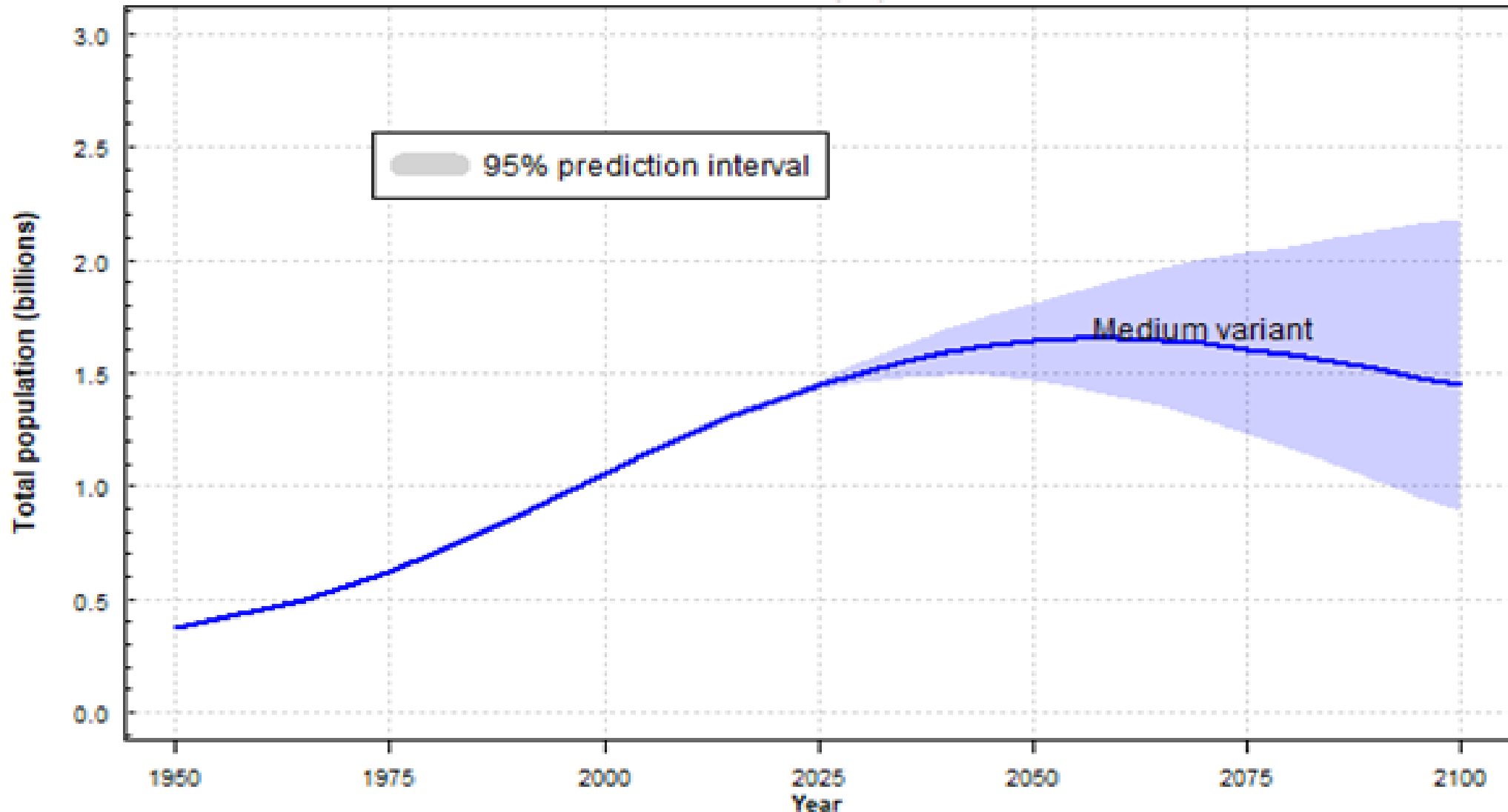


# Unorganised Sector

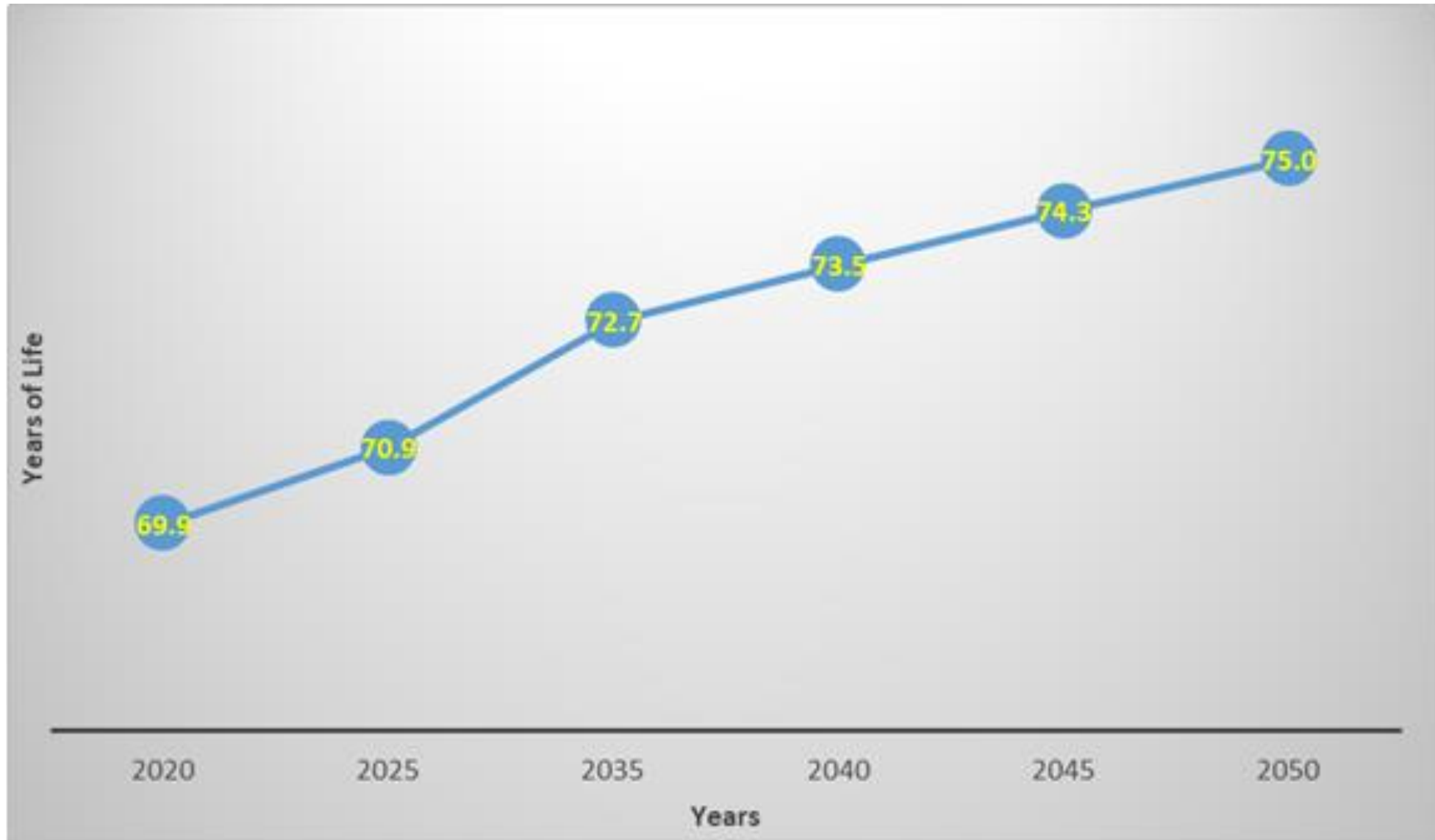
- Out of 450 million working population, 93 per cent, i.e., about 418.5 million are employed in the unorganised sector. (Economic Survey 2018-19)
- Pension coverage **8.78%** (36.75million)
- **91.2%** workers in Unorganised Sector are out of any pension/old age security coverage.

# India's Demographic Transition

India: Total population



# Life Expectancy at Birth (India)



Source: UN, DESA, Population Division. <https://population.un.org/wpp/>



## Projected Life Expectancy of Elderly in India (at different age levels)

<i>Age</i>	<b>2020-2025</b>	<b>2025-2030</b>	<b>2030-2035</b>	<b>2035-2040</b>	<b>2040-2045</b>	<b>2045-2050</b>
<i>At 60 Years</i>	18.34	18.66	19	19.34	19.7	<b>20.07</b>
<i>At 70 Years</i>	11.77	11.99	12.22	12.46	12.71	12.98
<i>At 80 Years</i>	6.95	7.06	7.18	7.3	7.43	7.58

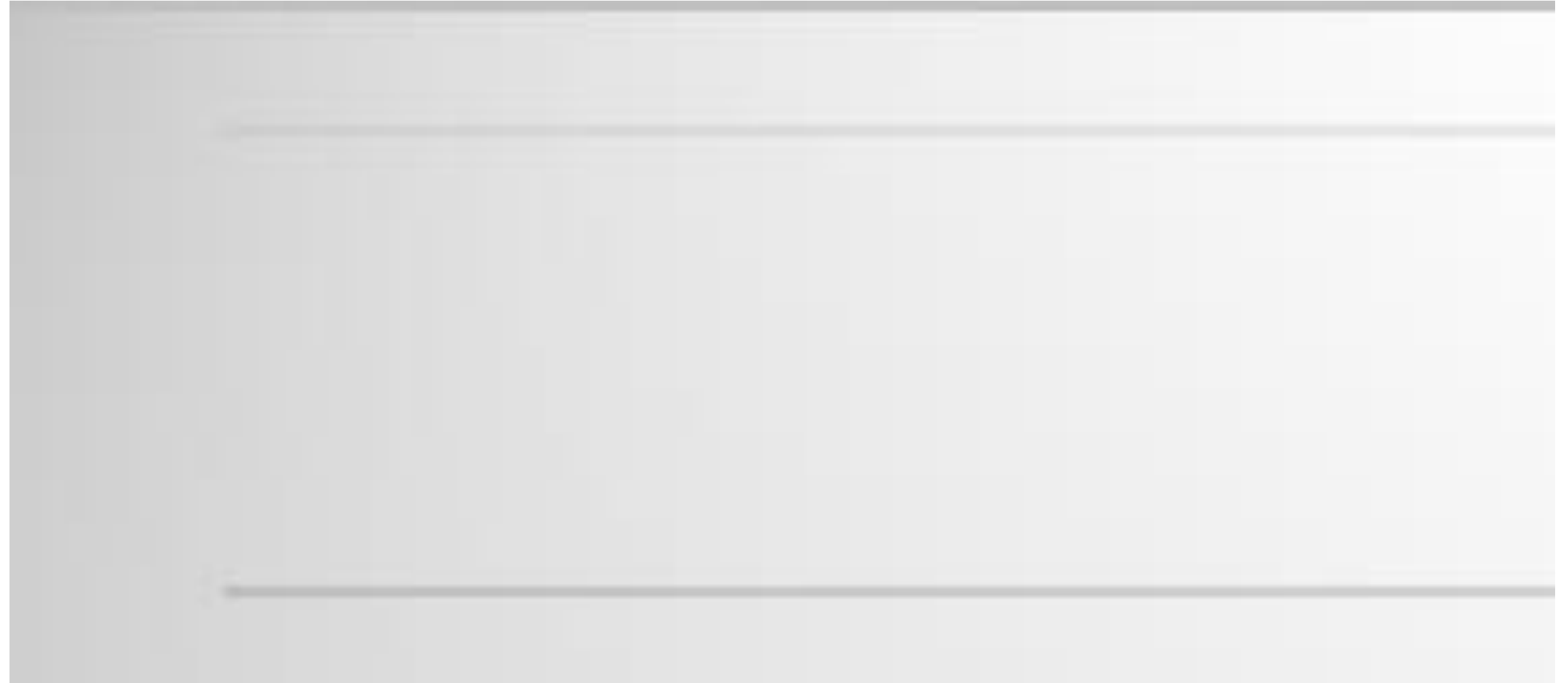
Source: UN, DESA, Population Division. <https://population.un.org/wpp/>.



# Projection of Population above 65 Years old



# Old Age Dependency Ratio Projection



Source: UN, <https://population.un.org/wpp/>.





# Objective

- Understanding the financial decision-making behaviour of MSME (unorganised sector) workers towards their retirement planning.
- Why MSME?

Share of Gross Value Added (GVA) of MSME in all India GDP

<b>Year</b>	<b>Share of MSME in GVA (%)</b>	<b>Share of MSME in All India GDP (%)</b>
<b>2015-16</b>	32.28	29.48
<b>2016-17</b>	32.24	29.25
<b>2017-18</b>	32.79	29.75
<b>2018-19</b>	33.50	30.27



Number of MSMEs in India (in Millions)

	Micro	Small	Medium	Total	Share (%)
Rural	32.409	0.078	0.001	32.488	51%
Urban	30.643	0.253	0.004	30.900	49%
All	63.052	0.331	0.005	63.388	100%

Employment in MSMEs (Rural &Urban) (in Millions)

	Micro	Small	Medium	Total	Share (%)
Rural	48.93	0.79	0.06	49.78	45%
Urban	56.89	2.41	0.12	61.21	55%
All	107.62	3.20	0.18	110.99	100%

Source: Annual Report 2020-21, MoMSME. <https://msme.gov.in/>.



## Primary Survey

- The maximum number of registered MSME units in India are in West Bengal (WB) with a 14% share.
- WB are broadly categorised into 17 sectors.
- The sample population comprises about 572,458 unorganised sector workers of West Bengal (WB) employed under different clusters among the 278 identified groups all over WB



- Multistage Sampling Procedure to collect our primary data.
- Population Size = 572458, Confidence Intervals 95% and Margin of error =3%, therefore Z value is 1.96.
- Therefore, Sample size is **1067**.

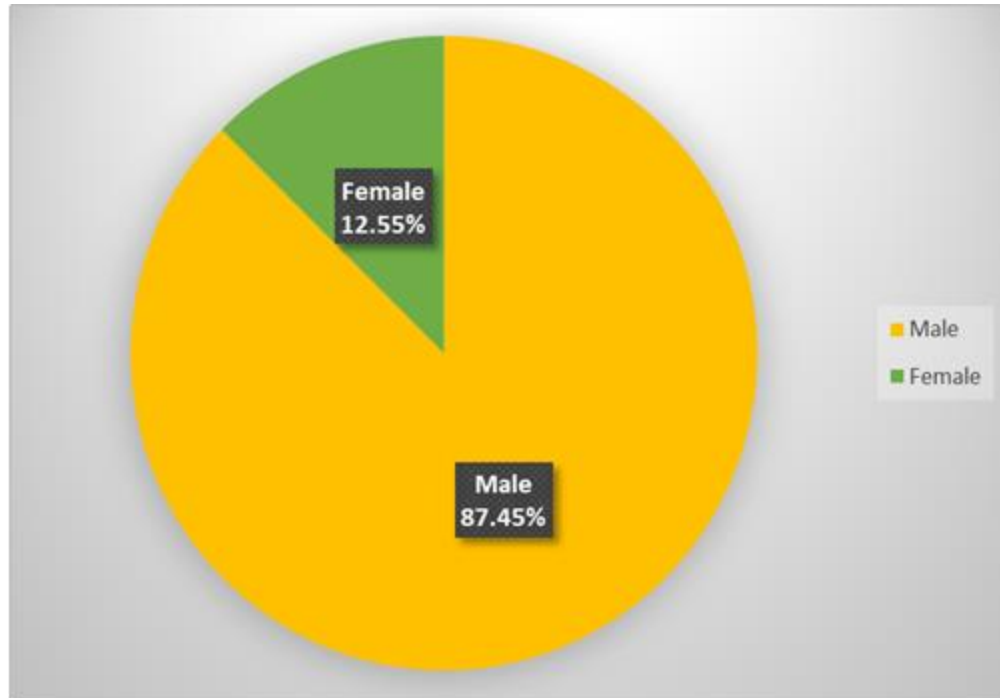
The proportional Allocation formula is as follows:

$$l_h = \frac{n}{N} N_h,$$

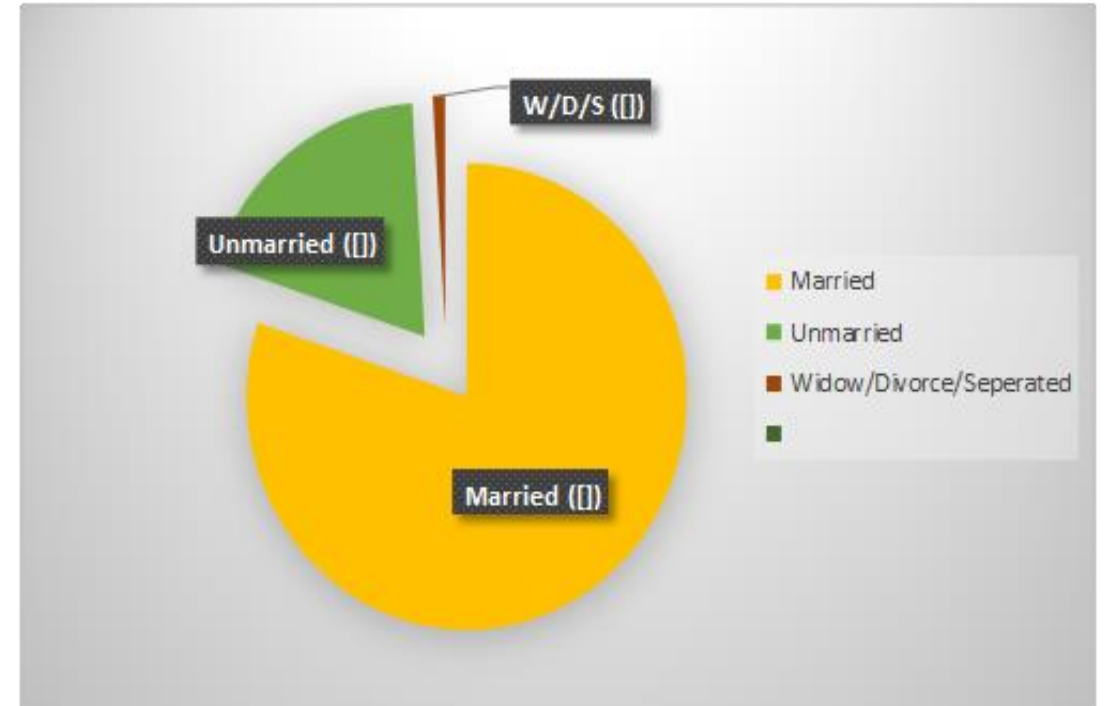
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# Sample characteristics

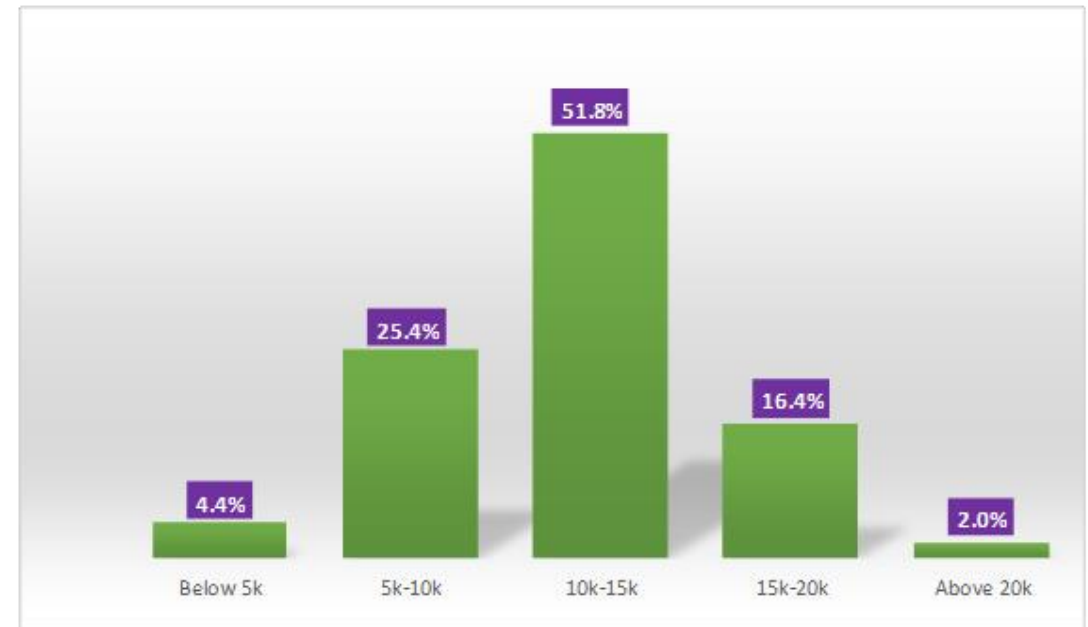
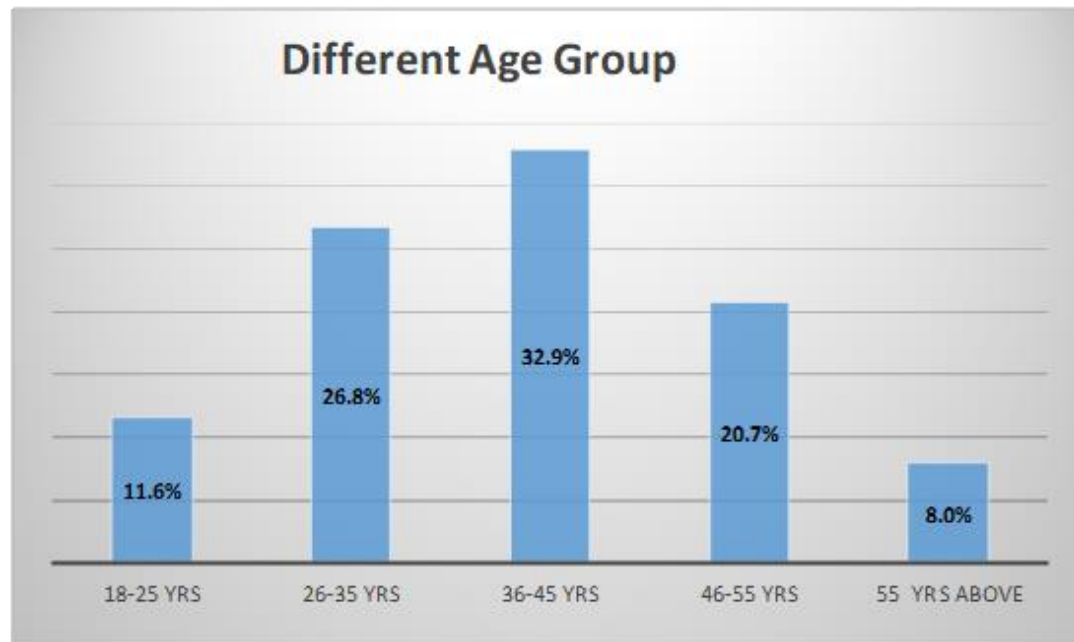
## Gender Distribution of Sample



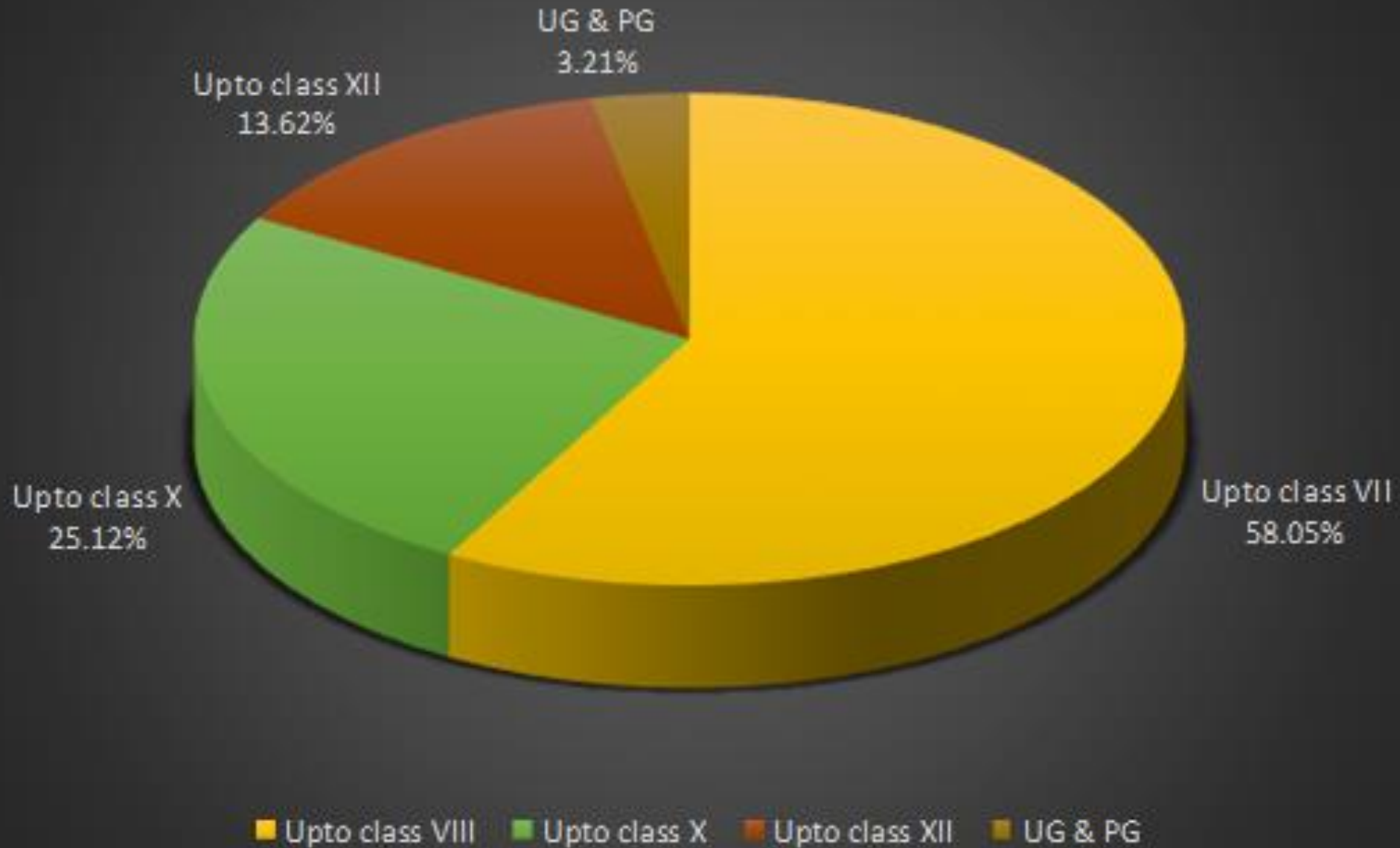
## Marital Status of Respondents



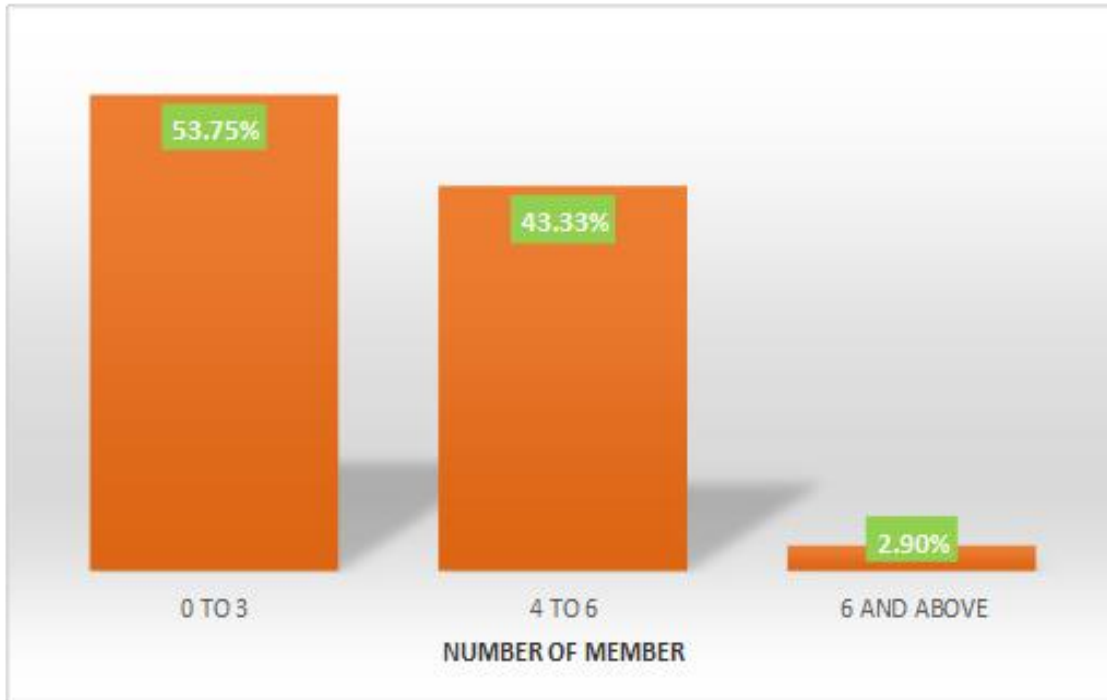
## Respondent's Income Group Distribution



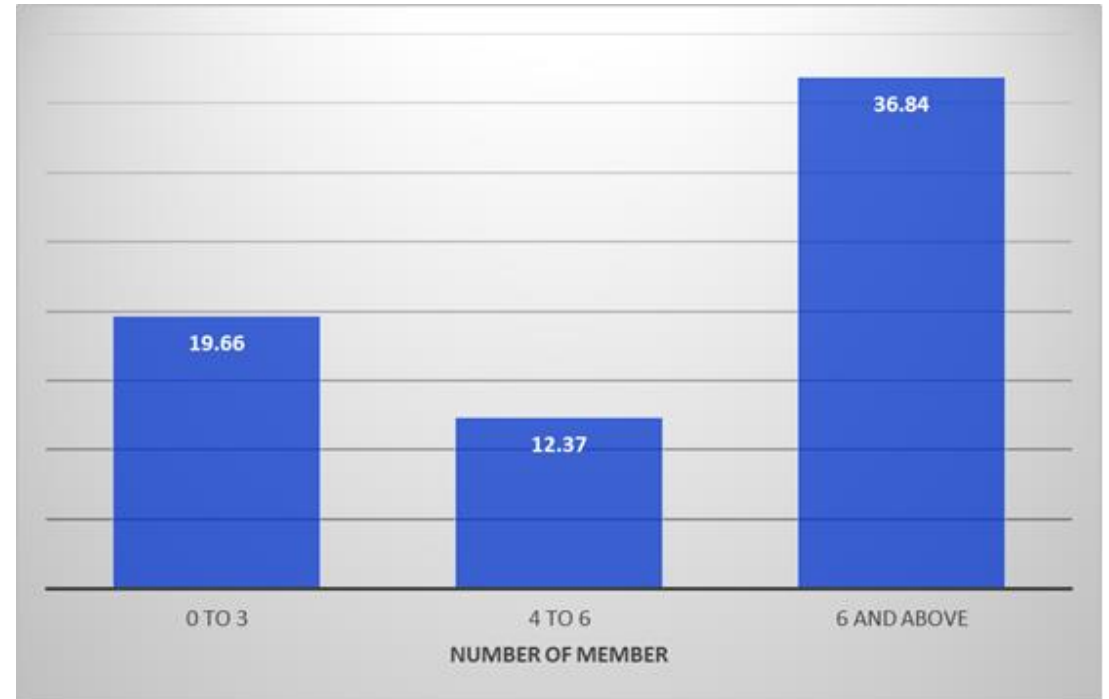
# Level of Education



Number of Dependents (in %) of Respondents

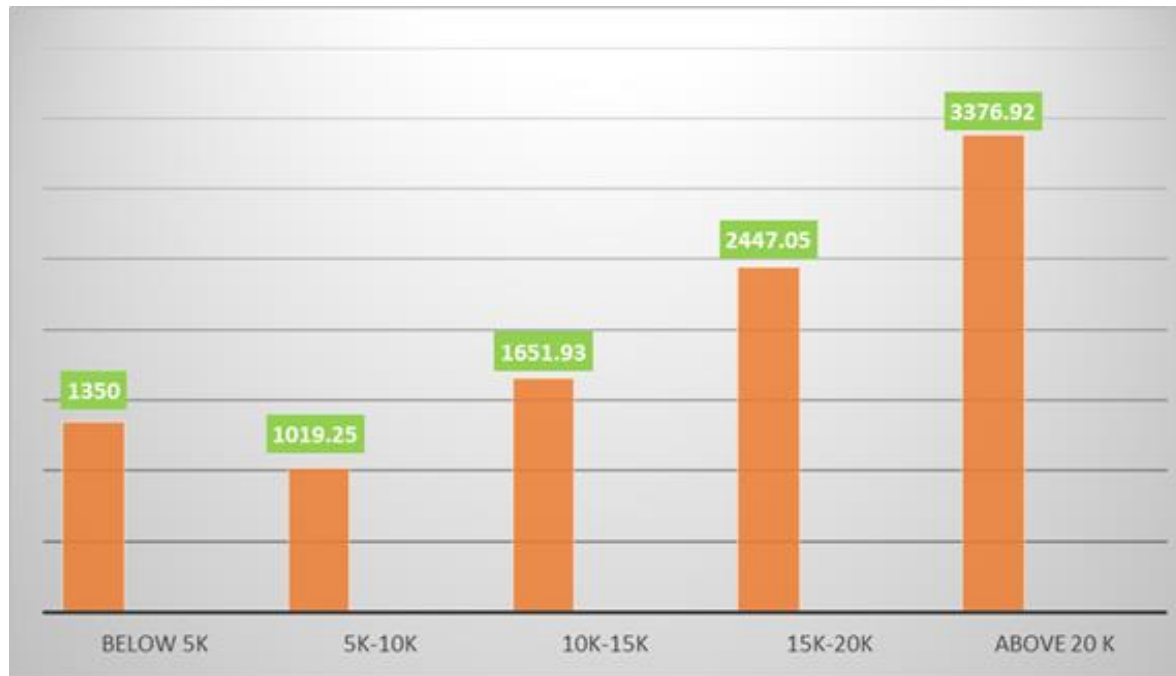


Savers Having Dependents

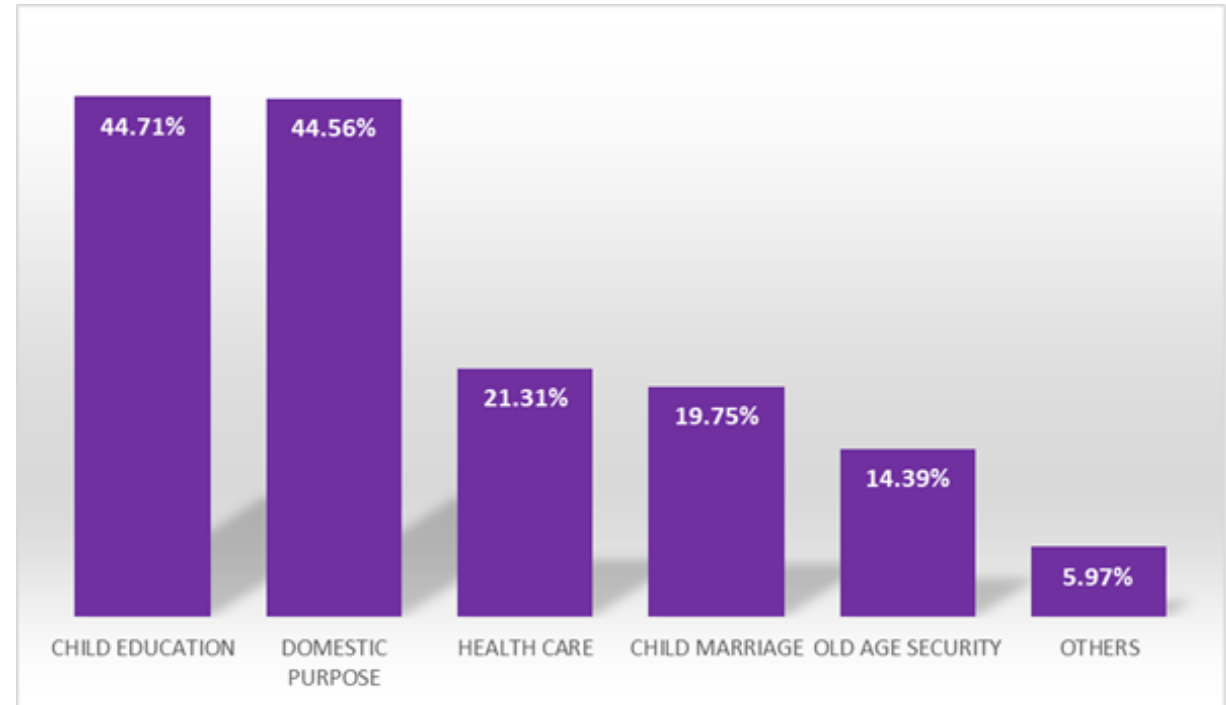




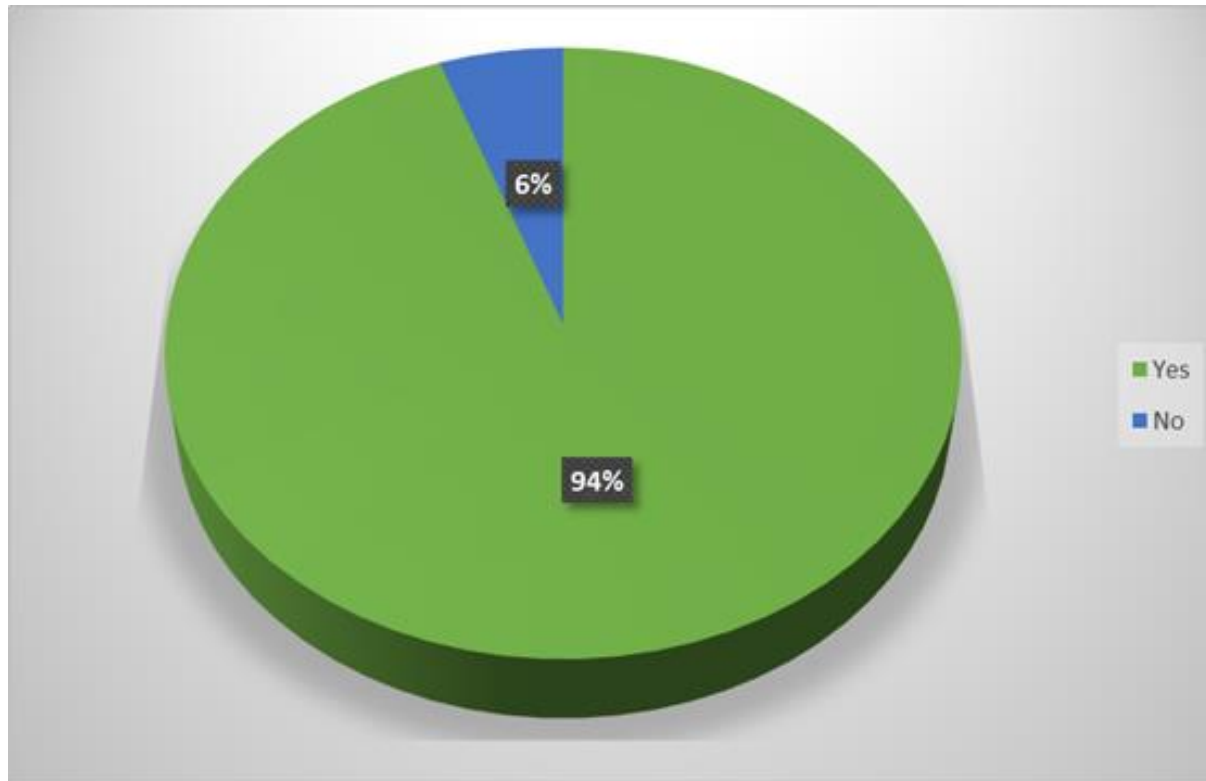
## Average Savings of Different Income Groups



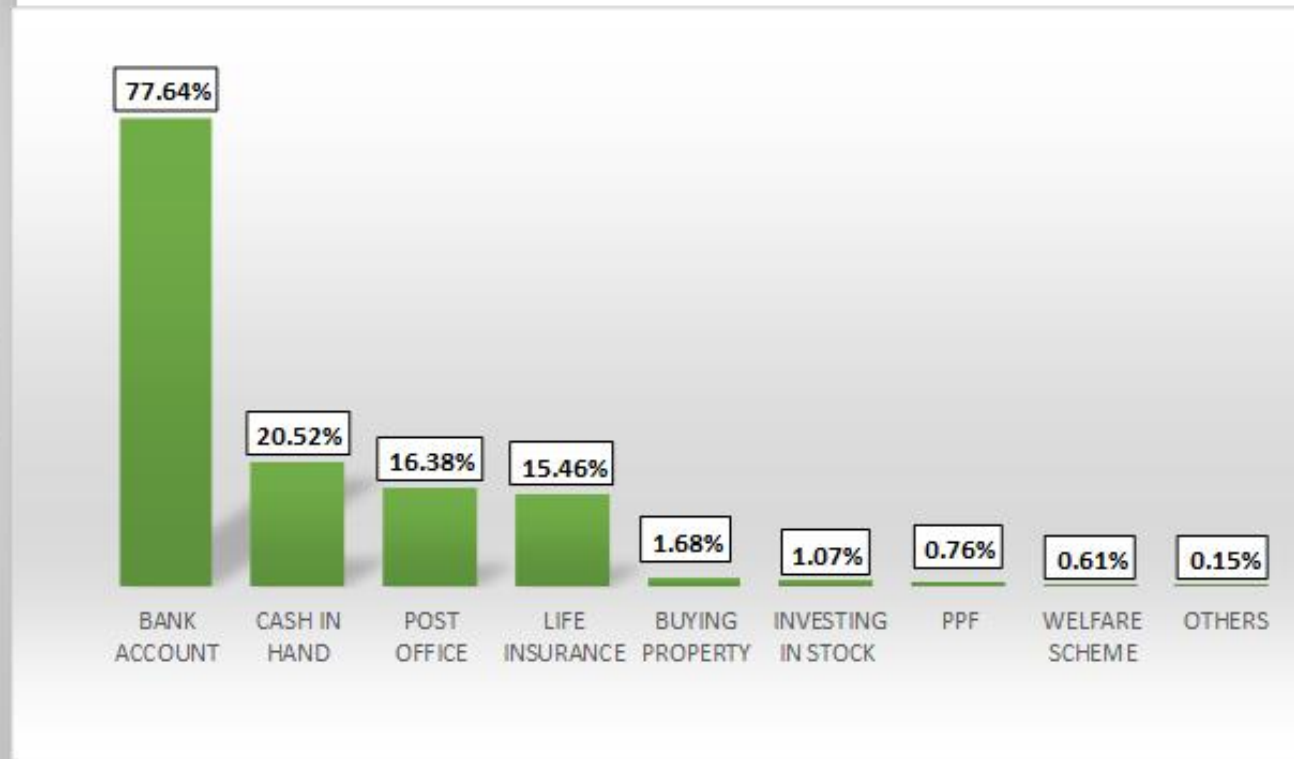
## Reasons for Savings



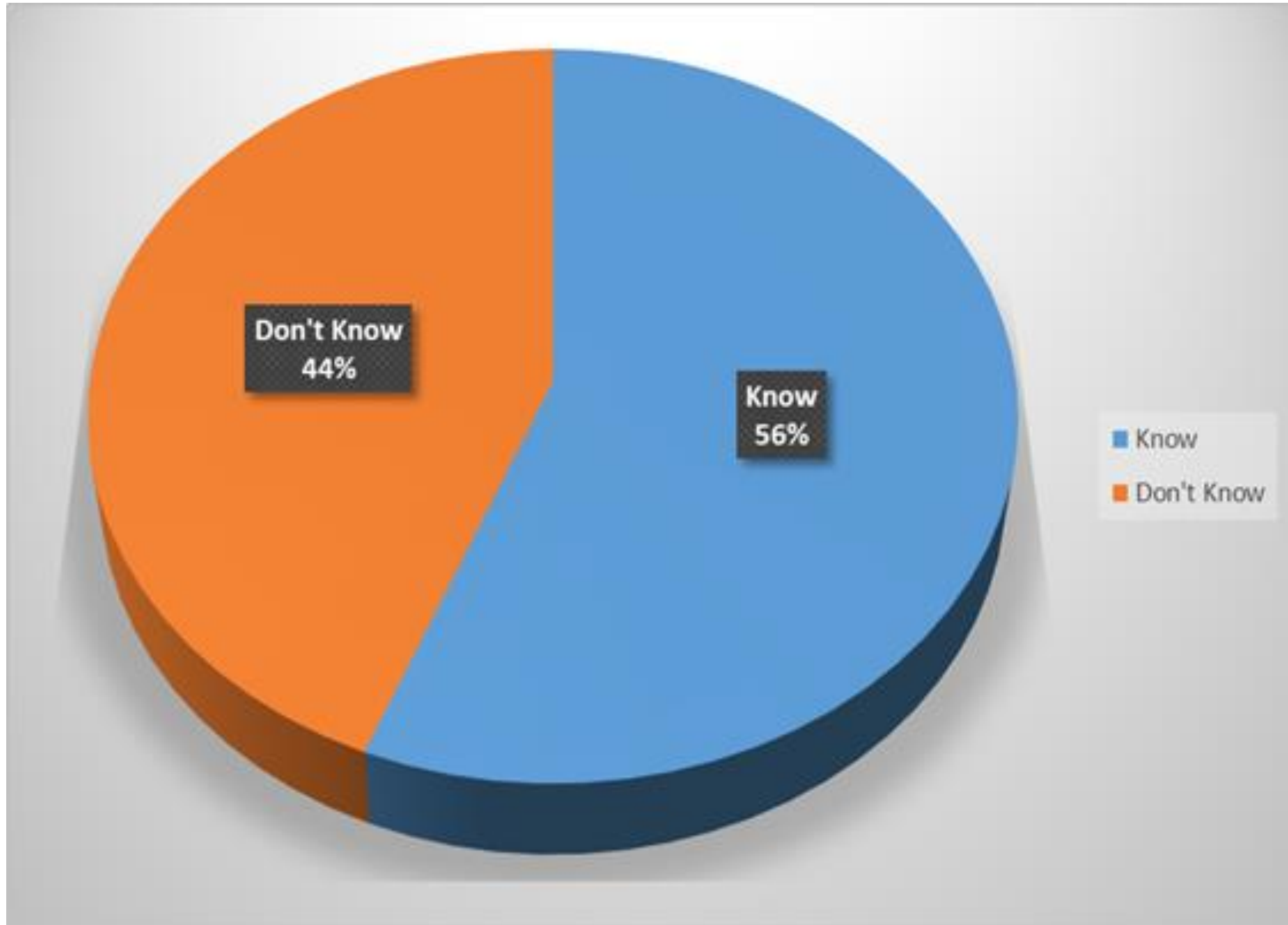
Bank Account of the Respondents (in %)



Where Respondents Save



# Awareness of Pension Schemes by the Unorganised Sector Workers





# Understanding the Financial Literacy

- **Big Three** - Lusardi and Mitchell (2011)
- Understanding of Interest Rate (Numeracy):
- Understanding of Inflation.
- Understanding of Risk Diversification.
- Understanding of Time Value of Money

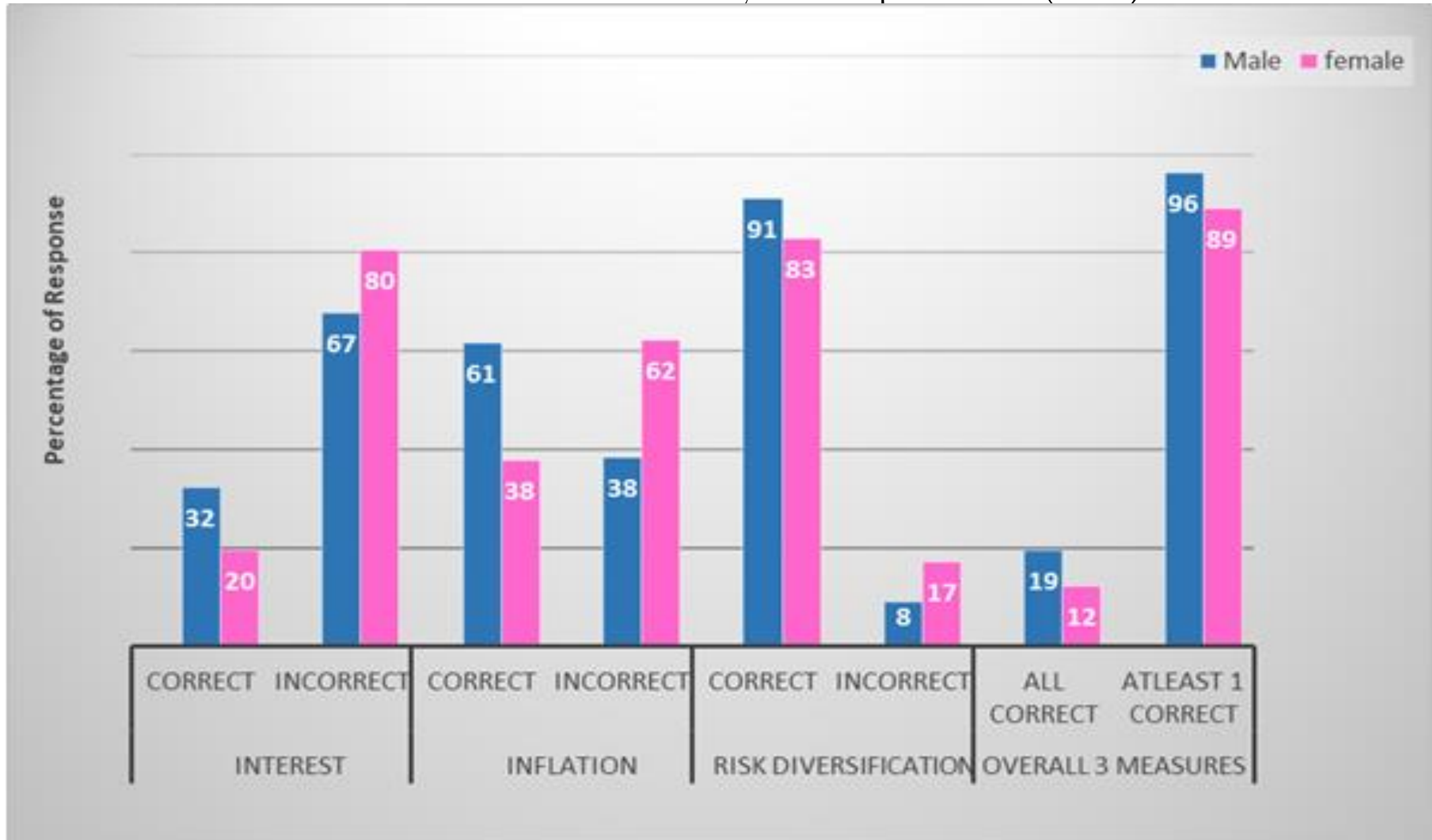
# Who Is Financially Illiterate? Who is the least financially literate?



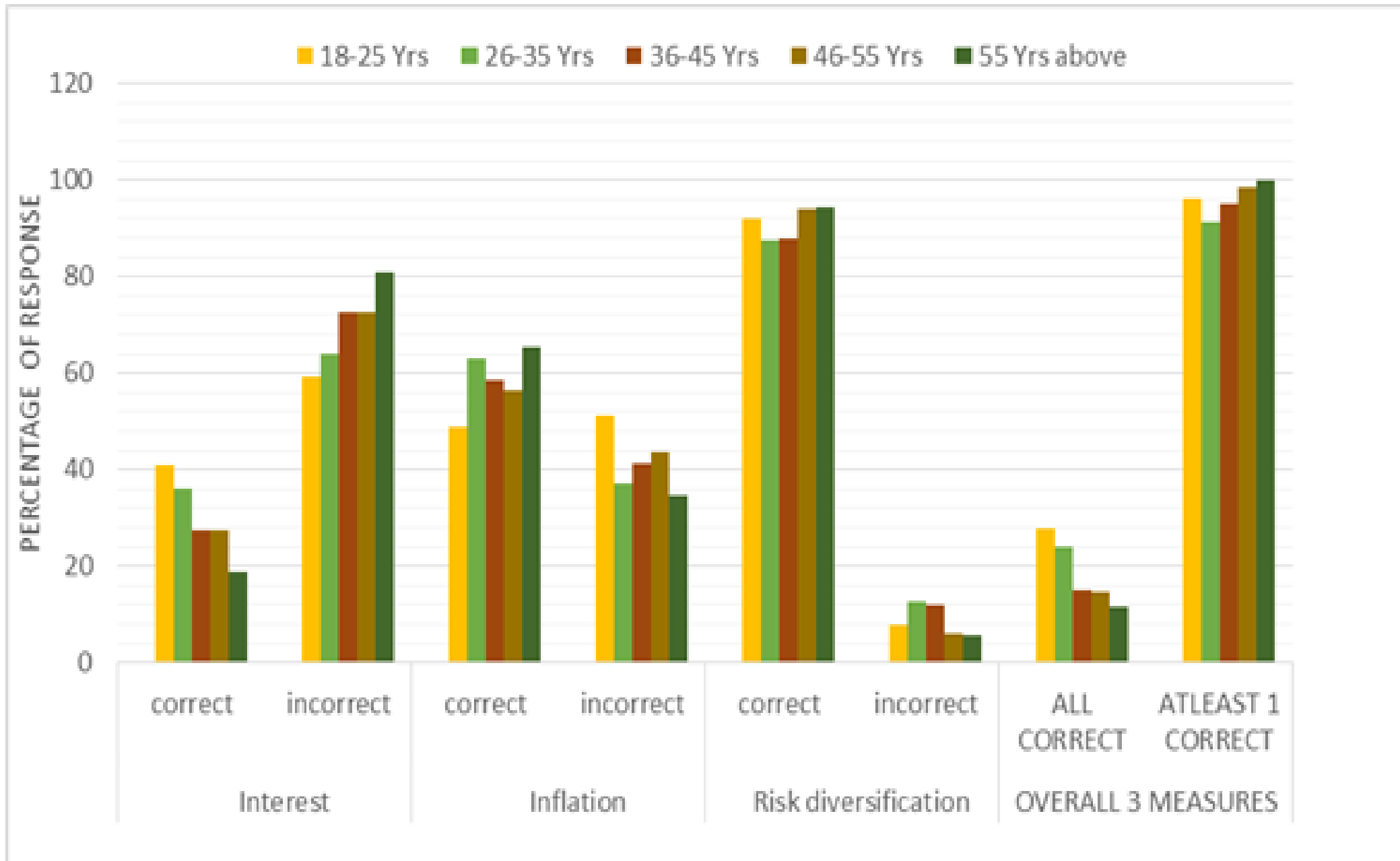
Education and Financial Literacy of Respondents (in %)



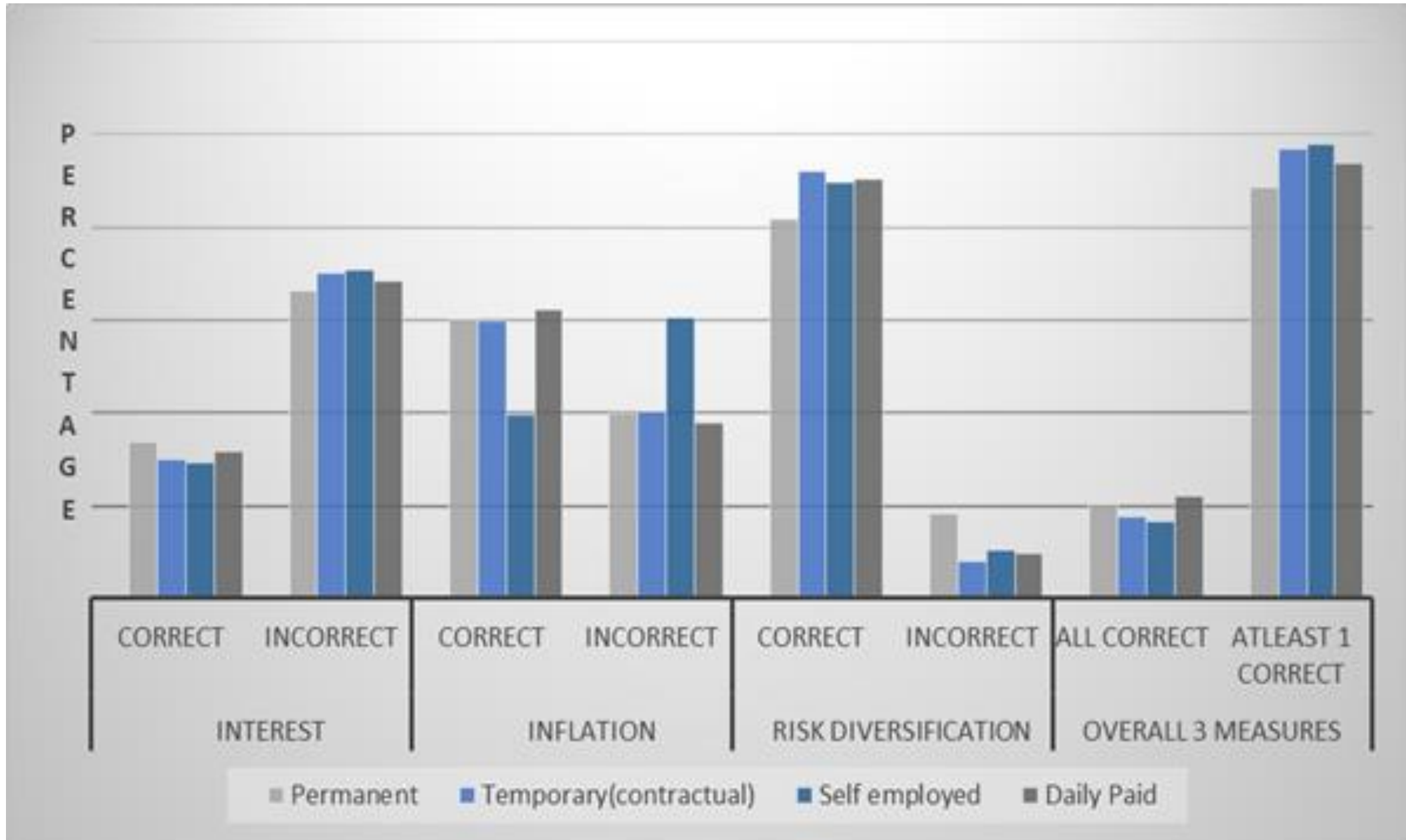
# Gender and Financial Literacy of Respondents (in %)



# Age and Financial Literacy (in %)



## Nature of Employment and Financial Literacy of Respondents (in %)





# Retirement Planning and Financial Literacy



Sl. no.	Questions	Planner	Non-planner
1	<b>Interest Question</b>		
	correct	38.46%	29.35%
	incorrect	61.53%	70.64%
2	<b>Inflation Question</b>		
	correct	74.72%	56.05%
	incorrect	25.27%	43.95%
3	<b>Risk Diversification Question</b>		
	correct	73.62%	79.00%
	incorrect	26.38%	21%
4	<b>Time Value Of Money</b>		
	correct	70.32%	51.42%
	incorrect	29.67%	48.57%
5	<b>Summary</b>		
	Correct: interest and inflation	29.67%	17.25%
	<b>Correct all three</b>	<b>23.07%</b>	<b>14.94%</b>
	<b>Correct at least 1</b>	<b>95.6%</b>	<b>92.88%</b>



# Relationship between pension planning and Financial Literacy of MSME workers

- Retirement planning question indicator ----Dependent variable
- **“willing to save”** equals one (1) if Yes and zero (0) otherwise
- Dependent variable is binary form (0/1),
- binary logistic regression framework .

Four (4) different financial literacy measures were used.



- **“Financial Literacy Score” (FL score)**, the cumulative score of the number of financial literacy questions answered correctly. One (1) score for each correct answer was assigned to the three big financial literacy questions.
- **“all three correct”**, where we score one (1) if the respondent answered all three financial literacy questions correctly and zero (0) otherwise.
- **“at least two correct answers”**, The variable equals one (1) if the respondent answered at least two of the three financial literacy questions correctly and zero (0) if not.
- **“at least one correct”**, one (1) if the respondent answered at least one financial literacy question correctly and zero (0) if not.





Dependent Variable=1 if Willing to Save, (0, don't save)	$\beta$	S.E.	Sig.	Odd Ratio (OR)	95% C.I. for EXP( $\beta$ )/Odd Ratio	
					Lower	Upper
<b>FL Score</b>	0.30**	0.13	0.02	1.35	1.05	1.73
<b>Constant</b>	-5.95***	1.05	0.00	0.00		
<b>Gen(1)</b>	2.47***	0.79	0.00	11.78	2.49	55.78
<b>Dep</b>	0.01	0.06	0.91	1.01	0.89	1.13
<b>Bank(1)</b>	1.12*	0.63	0.07	3.07	0.90	10.52
<b>Income</b>			0.03			
<b>Income(1)</b>	0.58***	0.23	0.01	1.79	1.15	2.79
<b>Income(2)</b>	0.95	0.81	0.24	2.58	0.52	12.71
<b>Age</b>			0.06			
<b>Age (1)</b>	0.27	0.21	0.20	1.31	0.87	1.99
<b>Age (2)</b>	0.81**	0.35	0.02	2.25	1.14	4.42
<b>Employ</b>			0.42			
<b>Employ (1)</b>	-0.04	0.37	0.92	0.96	0.46	2.01
<b>Employ (2)</b>	0.25	0.31	0.42	1.28	0.70	2.33
<b>Employ (3)</b>	-0.63	0.74	0.39	0.53	0.13	2.26
<b>Edu</b>			0.01			
<b>Edu (1)</b>	0.60***	0.22	0.01	1.83	1.18	2.82
<b>Edu (2)</b>	0.12	0.29	0.68	1.13	0.64	2.00
<b>Edu (3)</b>	1.24**	0.60	0.04	3.46	1.06	11.29

Hosmer and Lemeshow Test:  $\chi^2 (8) = 9.559, p = 0.298$

Note: \*\*\*p<0.01; \*\*p<0.05; \*p<0.1



Dependent Variable=1 if Willing to Save, (0, don't save)	$\beta$	S.E.	Sig.	Odd Ratio (OR)	95% C.I.for EXP( $\beta$ )/Odd Ratio	
					Lower	Upper
<b>All three correct</b>	0.01	0.26	0.98	1.01	0.61	1.67
Constant	-5.65***	1.03	0.00	0.00		
Gen(1)	2.60***	0.79	0.00	13.41	2.87	62.75
Dep	0.00	0.06	0.96	1.00	0.89	1.12
Bank(1)	1.23**	0.62	0.05	3.43	1.01	11.65
Income			0.02			
Income (1)	0.63***	0.23	0.01	1.87	1.20	2.91
Income (2)	0.98	0.80	0.22	2.67	0.55	12.93
Age			0.08			
Age (1)	0.26	0.21	0.21	1.30	0.86	1.96
Age (2)	0.75**	0.34	0.03	2.12	1.08	4.15
Employ			0.45			
Employ (1)	-0.07	0.37	0.85	0.93	0.45	1.93
Employ (2)	0.19	0.31	0.54	1.21	0.66	2.20
Employ (3)	-0.72	0.73	0.32	0.49	0.12	2.04
Edu			0.00			
Edu (1)	0.66***	0.22	0.00	1.94	1.26	2.99
Edu (2)	0.29	0.29	0.31	1.34	0.76	2.36
Edu (3)	1.43**	0.60	0.02	4.19	1.30	13.50

Hosmer and Lemeshow Test:  $\chi^2(8) = 3.967, p = 0.860$

Note: \*\*\*p<0.01; \*\*p<0.05; \*p<0.1



Dependent Variable=1 if Willing to Save, (0, don't save)	B	S.E.	Sig.	Odd Ratio (OR)	95% C.I. for EXP(β)/Odd Ratio	
					Lower	Upper
<b>At least two correct</b>	0.61***	0.21	0.00	1.83	1.22	2.75
Constant	-5.72***	1.04	0.00	0.00		
Gen (1)	2.42***	0.79	0.00	11.27	2.39	53.10
Dep	0.00	0.06	0.96	1.00	0.89	1.13
Bank (1)	1.08*	0.63	0.08	2.95	0.86	10.11
Income			0.03			
Income (1)	0.58***	0.23	0.01	1.78	1.14	2.78
Income (2)	0.94	0.83	0.26	2.56	0.51	12.90
Age			0.06			
Age (1)	0.28	0.21	0.18	1.32	0.87	2.00
Age (2)	0.81**	0.35	0.02	2.24	1.14	4.41
Employ			0.45			
Employ (1)	-0.03	0.37	0.94	0.97	0.47	2.03
Employ (2)	0.23	0.31	0.45	1.26	0.69	2.30
Employ (3)	-0.66	0.74	0.37	0.52	0.12	2.19
Edu			0.01			
Edu (1)	0.60***	0.22	0.01	1.82	1.18	2.80
Edu (2)	0.12	0.29	0.67	1.13	0.64	1.99
Edu (3)	1.27**	0.60	0.03	3.57	1.11	11.46

Hosmer and Lemeshow Test:  $\chi^2(8) = 2.881, p = 0.942.$

Note: \*\*\*p<0.01; \*\*p<0.05; \*p<0.1



Dependent Variable=1 if Willing to Save, (0, don't save)	$\beta$	S.E.	Sig.	Odd Ratio (OR)	95% C.I.for EXP( $\beta$ )/Odd Ratio	
					Lower	Upper
					<b>At least one correct</b>	1.03*
<b>Constant</b>	-6.55***	1.17	0.00	0.00		
<b>Gen (1)</b>	2.55***	0.79	0.00	12.85	2.72	60.69
<b>Dep</b>	0.00	0.06	0.96	1.00	0.89	1.13
<b>Bank (1)</b>	1.22**	0.63	0.05	3.39	0.99	11.57
<b>Income</b>			0.03			
<b>Income (1)</b>	0.60***	0.23	0.01	1.82	1.17	2.83
<b>Income (2)</b>	0.92	0.81	0.25	2.52	0.52	12.22
<b>Age</b>			0.07			
<b>Age (1)</b>	0.23	0.21	0.27	1.26	0.84	1.91
<b>Age (2)</b>	0.79**	0.34	0.02	2.20	1.12	4.32
<b>Employ</b>			0.49			
<b>Employ (1)</b>	-0.09	0.37	0.82	0.92	0.44	1.90
<b>Employ (2)</b>	0.18	0.30	0.54	1.20	0.66	2.19
<b>Employ (3)</b>	-0.66	0.74	0.37	0.52	0.12	2.21
<b>Edu</b>			0.00			
<b>Edu (1)</b>	0.66***	0.22	0.00	1.93	1.26	2.97
<b>Edu (2)</b>	0.27	0.28	0.33	1.31	0.76	2.29
<b>Edu (3)</b>	1.40**	0.59	0.02	4.06	1.27	13.00

Hosmer and Lemeshow Test:  $\chi^2(8) = 6.446, p = 0.597$

Note: \*\*\* $p < 0.01$ ; \*\* $p < 0.05$ ; \* $p < 0.1$





# Findings

- **Positive relationship** between higher financial literacy and old-age financial planning in India.
- Access to banking improves the probability of retirement savings by **three (3) times**.
- Males are 10-13 times more likely to save for retirement than women in India.
- higher age (55 years and above) is significantly associated with financial literacy.
- Middle-income level workers are statistically significant in driving retirement savings (**79%** more likely to save).
- school level education improves the chances of savings by 1.83 times (or 183%) and **higher education** (graduate level/technical education) improves the same by 346% (or **3.46 times**)



## Policy Recommendation:

- Direct financial literacy programmes to improve the financial literacy of old age security for the unorganised sector worker.
- In the long run, to improve overall financial education, it is crucial to introduce financial literacy at the school level as an indispensable subject.
- Reduce the minimum requirement to 10 persons from the existing 20 persons for mandatory enrolment into the EPF system.
- Creation of job opportunities is essential for improving the investment in pension funds.
- Formalise more informal jobs into the formal sector with better job contract may stabilise the source of income for the workers



## Policy Recommendation:

- Expand the general educational level of the workers in the unorganised sector. Investment in school and technical education must improve the understanding of longevity and inflation risk to the unorganised sector workers.
- Improving financial inclusion by offering a bundle of financial products, including pension schemes, will help grow India's contributory pension savings. (supply side of the financial services)
- Introduce customised pension schemes to suit better the unorganised pension requirement sector with more cost-effective management of the pension fund.



Suggestions and comments.