

Income, Consumption and Saving Among Rural Households in Manipur: Testing A Moderated Mediation Analysis.

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Abstract

This study examined the relationships among income, consumption and saving behaviour among rural households and investigated the mediating role of consumption and the moderating role of uncertainty. Data were collected from 201 respondents analyzed using Hayes' PROCESS Macro in SPSS. The findings revealed that income has a significant positive effect on consumption and saving behaviour. However, consumption did not significantly influence saving. Furthermore, uncertainty in harvesting, employment and health did not significantly moderate the relationship between income and consumption or the indirect effect of income on saving through consumption. The study concludes that income is the most important factor associated with both consumption and saving behaviour, while the proposed mediating role of consumption and moderating role of uncertainty were not supported. These findings suggest that saving among rural households in Manipur may occur through channels largely independent of consumption behaviour, and that the precautionary saving mechanism may operate less uniformly in populations facing pervasively high and relatively undifferentiated uncertainty. Implications for rural financial inclusion and financial literacy policy and directions for future research are discussed.

Keywords: Income, Consumption, Saving Behaviour, Uncertainty, Rural Households.

I. INTRODUCTION

Household saving is one of the most important mechanisms by which families manage financial risk over time. In the absence of well-developed credit and insurance markets, saving allows households to smooth consumption across periods of fluctuating income, absorb unexpected shocks, and invest in future needs such as education, health and productive assets. According to Keynes's (1936) Absolute Income Hypothesis (AIH) frames $\text{saving} = \text{Income} - \text{Consumption}$. This is an accounting identity rather than a behavioural outcome. Understanding how and why households actually convert income into saving requires understanding the intervening role of consumption itself and the conditions under which that conversion strengthens and weakens. Rural households in developing regions often experience irregular and uncertain income, limited access to credit and insurance and unavoidable spending needs. This is especially true in rural Manipur, where most families depend on agriculture, making their income vulnerable to weather changes, pest, diseases and fluctuating market prices. Unexpected expenses such as medical emergencies, funeral, social events like weddings and festivals can also place a heavy burden on household finance. Because of these challenges, rural Manipur provides a suitable setting to study how

income affects consumption and saving and how uncertainty influences this relationship. Building on the Absolute Income Hypothesis 1936, Duesenberry's (1949) Relative Income Hypothesis and Ando and Modigliani's (1963) Life-Cycle Hypothesis suggest that Consumption is shaped by social comparisons, habitual spending and life cycle stage; not income alone while a household's wealth-buffer position further determines how tightly saving tracks residual income. Precautionary saving theory (Leland, 1968; Kimball, 1990) and buffer-stock models (Deaton, 1991; Carroll, 1997) extend this logic further, proposing that uncertainty should systematically weaken the rate at which income converts into consumption, thereby altering the strength of income's effect on saving.

Despite this well-developed theoretical foundation, two gaps remain in the empirical literature. First while the individual links between income, consumption and saving are well documented, comparatively few studies formally test consumption as a statistical mediator, using techniques such as bootstrapped indirect-effect testing; rather, that treating it as a descriptive or residual variable. This is especially true in rural household contexts in developing economies, including rural Manipur, where existing work relies predominantly on simple correlation or ordinary least squares regression without decomposing total, direct and indirect effects. Second, although precautionary saving theory provides a clear basis for expecting uncertainty to weaken the income-consumption relationship and buffer-stock models extend this logic to predict a downstream effect on saving, no study has tested uncertainty as a moderator of the indirect effect of income on saving through consumption specifically; as opposed to a moderator of consumption alone. This study addresses both gaps directly, and the literature review develops the supporting theoretical and empirical case for each in full.

II. OBJECTIVES

1. To examine whether income has a significant positive effect on consumptions among rural households in Manipur (H1a).
2. To examine whether consumption has a significant effect on saving, controlling for income (H1b).
3. To test whether consumption mediates the relationship between income and saving (H1).
4. To examine whether uncertainty moderates the relationship between income and consumption, such that the effect is weaker under higher uncertainty (H2).
5. To test whether uncertainty moderates the indirect effect of income on saving through consumption (H3).

III. THEORETICAL FOUNDATION AND HYPOTHESIS DEVELOPMENT

According to Keynes (1936), the Absolute Income Hypothesis (AIH) Frames saving as what remains once consumption is subtracted from income; $\text{saving} = \text{income} - \text{consumption}$. In (Keynes, 1937), this idea is developed further, noting that "an increase in income will be divided in some proportion or another between spending and saving" (p.220). This signifies that saving cannot be reduced to a mere accounting identity; instead, consumption behaviour is central to understanding saving, which means any account of saving must initiate by explaining how income gets split toward consumption in the first place.

(Duesenberry's, 1949) Relative Income Hypothesis (RIH) and (Ando and Modigliani's, 1963) Life-Cycle Hypothesis (LCH) complicate this pathway rather than break it. Duesenberry demonstrates that consumption is shaped by social comparison and habitual patterns. In a rural context, ceremonial and communal obligations keep consumption elevated regardless of a household's income level. Ando and Modigliani similarly show that consumption and saving vary predictably across stages of the household

life cycle, so households with identical income can consume very differently depending on the age of the household head.

The theoretical anchor for H2 and H3 is precautionary saving theory, developed by Leland (1968) and formalized by Kimball (1990) through the concept of prudence. Leland showed that under income uncertainty, households with diminishing marginal utility save more than a certainty equivalent income stream would predict, since income shortfalls reduce utility more sharply than equivalent surplus raise it, a precautionary motive that arises when the marginal utility function is convex. Kimball (1990) formalized this as structurally analogous to Arrow-Pratt risk aversion, introducing the coefficient of absolute prudence as a formal measure of how strongly saving responds to uncertainty; treating uncertainty as a variable in strength, not merely a factor that lowers consumption.

(Deaton, 1991) and (Carroll, 1997) extend the logic with buffer-stock saving models: household facing income uncertainty who are both “prudent” and impatient maintain a target buffer stock of wealth relative to income. When wealth falls below this target, the precautionary motive dominates and households save; when wealth rises above it, impatience dominates and households draw the buffer down.

III.I. Empirical evidence

Path a: income → consumption

A Substantial body of empirical work confirms a positive relationship between household income and consumption, consistent with Keynes’s Absolute Income Hypothesis. Evidence from Pakistan, using national data (1980-2012) alongside primary survey data, found an income coefficient of 0.86 (significant at 1%), meaning a Rs 1 million rise in national income was associated with Rs. 0.86 million rise in consumption, with higher-income households showing higher consumption level (Ahmad, 2014). (Diacon and Maha, 2015) confirm the relationships across a cross-country panel, finding it stronger at the low and high ends of the income distribution than in the middle, which provides the evidence that the income-consumption coefficient is not fixed but context-dependent. (Wang et al., 2022) extend this with an important asymmetry: across G7 economies, income increases significantly and positively affect consumption in both the short and long run. A panel evidence from rural Chinese villages (2003-2006), where a households consumption rate rise with income relative to its village, even after absolute income is control for, and with village-level inequality (Sun and Wang, 2013). (Bertrand and Morse, 2016) extend this into a quantified “trickled-down consumption portion as top incomes rise nearby; driven by rising budget shares on visible goods rather than by wealth effects or prices. They estimate non-rich households could have saved up to 3% more annually had top-income increase tracked median growth since the 1980s. (Bhar, Lele and Rao., 2022) sharpen the mechanism further: in India, media exposure and social-network activity, not income level, are the proximate drivers of conspicuous and luxury consumption, with income merely enabling the spending. These literature evidences are consistent with (Duesenberry’s, 1949) Relative Income Hypothesis (RIH).

According to (Wang et al., 2022), income increases lead to greater consumption in G7 countries, whereas income reductions have a significantly smaller effect on consumption. (Jappelli and Pistaferri, 2010) explain that this occurs because several households face liquidity constraints and use saving as a buffer to maintain their living standards during challenging periods. As a result, households attempt to smooth their consumption instead of adjusting it immediately to every income change (Fisher et al., 2020). Further show that a household’s wealth level plays a crucial and vital role. Wealthier households typically have savings and assets that allow them to maintain their spending even when income changes, so their

consumption is less sensitive to current income. In contrast, low-wealth households have fewer financial resources and hence must adjust their spending more closely in line with changes in income. Thus, these studies confirm that income positively affects consumption, but the strength of this depends on the household's financial situation. Households with greater savings and assets can better smooth their consumption, while households with little wealth rely more heavily on their current income for spending.

Path b: consumption → saving, net of income

According to (Fisher et al., 2020), households with more wealth tend to spend a smaller share of additional income and save a larger share; even after accounting for differences in income (Basso and Gomez-Garcia, 2025) find that this behaviour contributed significantly to the rise in Spain's households saving rate after the pandemic. They estimate that the decline in household's marginal propensity to consume, especially among higher-income households and those with growing liquid assets, explains about half of the increase in Spain's aggregate saving rate between 2017 and 2022. Similarly, Krueger et al., (2024) show that households with little wealth mainly respond to income shocks by changing their consumption, while wealthier households can use their assets to cushion income changes and adjust their saving instead. These findings are consistent with the Life-Cycle Hypothesis (LCH), which shows that the effect of an income shock on saving depends on a household's asset position. However, consumption still plays a mediating role and gives some households an additional way to manage income fluctuation.

(Painter et al., 2022) show that in urban China, an increase in housing wealth leads to higher household consumption. They find that a 1% increase in housing wealth raises consumption by about 0.14%, with the effect being strongest among households facing greater income uncertainty. This suggests that precautionary saving motives, rather than wealth effects alone, play an important role in households' spending decisions. Similarly, Aryal and Aryal (2023) examine how income distribution affects food expenditure, non-food expenditure, and saving in a developing economy. Their findings show that differences in household spending patterns, not just income levels, help explain why some households save more than others. This provides direct evidence that consumption influences saving behaviours.

Although the relationship between income and saving is well established, very few studies have examined whether consumption acts as a mediator between incomes and saving, especially among rural households.

- **H1a:** Income has a significant positive effect on consumption (path a).
- **H2b:** Consumption has a significant effect on saving, controlling for income (path b)
- **H1:** Consumption mediates the relationship between income and saving.

III.II. Sources of Rural Household Uncertainty

Rural households face three distinct sub-dimensions of uncertainty; income and harvest shocks, health and expenditure shocks, and employment and livelihood instability; that differ in how strongly and consistently they affect consumption and saving behaviour (Ansah et al., 2020; Sun et al., 2025; He & Zhou, 2022).

a) Income and Harvest uncertainty

Weather variability is a primary driver of income fluctuations for agricultural households, directly linking rainfall and temperature shocks to consumption and saving decisions (Khanal et al., 2019; Colmer, 2021). Both annual and seasonal weather risks significantly influence saving among rural households in India (Khanal et al., 2019). Pest and disease risks constitute a separate channel: crop diseases directly reduce productivity and farm income, with Pakistani farmers perceiving crop diseases as a major livelihood risk alongside food price increases and irrigation shortages (Ahmed et al., 2017). Output price volatility introduces a distinct market-driven income risk. Agricultural producers in fragile economies face severe

price volatility driven by weak infrastructure and limited market access, reducing household income by 8.2% and food consumption scores by 3.9 units (Benea & Ouko, 2025). Smallholder rubber farmers rank declining rubber prices as the market risk with the most negative impact on household consumption and income (Irawan et al., 2025), and farmers frequently encounter sharp price declines following harvest periods, resulting in distress sales (Astaman et al., 2025). Rural residents lack bargaining power during supply and sales because supply elasticity exceeds demand elasticity for agricultural products (Han et al., 2023).

b) Health and Expenditure-Shock Uncertainty

Households that experience health shocks tend to see significantly reduced consumption levels (Dercon et al., 2005), and in northern Laos, unplanned expenditure from medical illness or funeral costs were the economic shocks households reported most often (Junquera & Grêt-Regamey, 2020). Poor health of the household head heightens financial vulnerability through income loss and medical costs, while chronic disease influences rural households more than urban ones due to unequal access to health resources (He & Zhou, 2022).

c) Employment and Livelihood Uncertainty

According to (Zhai and Luo, 2026) the economic policy uncertainty suppresses non-farm employment, disproportionately harming low-income and geographical remote workers. (Sun et al., 2025) show that livelihood vulnerability erodes household's resilience over time, with social risk causing the greatest damage. (Berchoux et al., 2019) demonstrate that agricultural shocks heighten livelihood precariousness, moderated by local community capitals. Extending this to youth, Mohammed Shuker and Hashim Sadik, (2024) show that despite Ethiopia's economic growth, rural youth continue to face shrinking land access, poor infrastructure, and limited market opportunities, driving unemployment and urban outmigration.

III.III. Empirical Evidence of Moderation

Carroll provides an early empirical test of income uncertainty's effect on consumption, projecting future income for a panel of US households and finding that consumers facing greater income uncertainty consume significantly less, consistent with buffer-stock behaviour (Carroll, 1994). Spanish evidence similarly shows a negative effect of measured income uncertainty on consumption, with a 1 per cent increase in uncertainty linked to an 8.8 per cent fall in consumption in one specification of household data at the end of the Great Recession (Lugilde, 2024).

Related studies show the same mechanism through heterogeneous MPCs. (Srivani and Faisal, 2024) examined MPC before and during COVID-19 among households in West Sumatra, Indonesia, using OLS regression, and found MPC declined slightly during the pandemic (from 0.643 to 0.625), attributing the change to increased economic uncertainty. (Oh and Rogantini Picco, 2025) show that household income heterogeneity is important to explain consumption dynamic in response to aggregate macro uncertainty, finding that an increase in uncertainty generates a consumption drop that is stronger for lower-income households. (Trivin, 2022) similarly finds, in a study of Spanish households, that wealthier households consume more in response to income changes while weaker households are tied to stronger precautionary motives.

However, not all evidence aligns with this prediction (Kosar and Melcangi, 2025) find that MPC is increasing and concave in subjective earnings and spending uncertainty, contradicting the monotonic decline predicted by standard precautionary- saving models, and attribute this to latent household heterogeneity rather than a genuine uncertainty response. Bui et al., (2022) find that during COVID-19, MPCs in Thailand and Vietnam were significantly larger for positive than negative income shocks; the

reverse of what precautionary saving models predict, attributing this to loss aversion under income uncertainty (Bowman et al., 1999) rather than a standard precautionary motive.

Together, these contradictory findings suggest that the effect of income uncertainty on consumption is not uniformly negative, but is moderated by household's heterogeneity and behavioural factors.

- **H2:** Uncertainty moderates the relationship between income and consumption (path a), such that the effect is weaker under higher uncertainty.
- **H3:** Uncertainty moderates the indirect effect of income on saving through consumption (moderated mediation / conditional indirect effect).

IV. RESEARCH METHODOLOGY

IV.I. Research Paradigm

This study is grounded in the positivist research paradigm, which assumes that social and economic phenomena can be objectively measured and examined through statistical analysis (Creswell, 2014). The study seeks to test predefined hypotheses concerning the relationship among income, consumption, saving behaviour and uncertainty based on established economic theories. Consistent with the positivism, these variables are treated as measurable constructs and a deductive approach is adopted whereby hypotheses derived from theory and prior literature are tested using quantitative data and standardized statistical techniques.

IV.II. Research Approach and Design

This study adopts a quantitative research approach, consistent with the positivist paradigm and the objective of testing hypothesized relationship among income, consumption, saving behaviour, and uncertainty. A cross-sectional survey design was employed, with data collected from rural households in Manipur at a single point in time. The study follows an explanatory research design as it seeks to examine and explain the relationship among the study variables through statistical analysis.

IV.III. Population, Sample Size and Sampling technique

The target population comprises rural households in Manipur engaged in cultivation, livestock rearing, non-farm business, wage labour or salaried employed and responsible for household income, consumption and saving decisions.

The study used a final sample of 201 rural households (N = 201) with complete responses on the core variables, collecting the data through a simple random sampling technique.

Table No. 1: Measurement of the Variables.

Variable	Types	Measurement	Construct sources
Income (X)	Independent variable	Bracketed total household income, past 12 months; recoded to interval midpoints for analysis	Self-Developed
Consumption (M)	Mediator	Bracketed total household consumption expenditure, past 12 months; recoded to interval midpoints	Self-Developed

Saving (Y)	Dependent variable	Gated Yes/No saving indicator, followed by bracketed average monthly saving amount; recoded to interval midpoints, with true zero for non-savers	Self-Developed
Uncertainty (W)	Moderator	11-item Likert scale across three sub-dimensions (harvest, health, employment), confirmed via exploratory factor analysis	Self-Developed based on Precautionary-saving and buffer-stock theory (Leland,1968;Kimbal, 1990;Deaton,1991;Carroll,1997
Social pressure on consumption	Supplementary predictor	3-item Likert scale	Self-Developed based on the Relative Income Hypothesis (Duesenberry, 1949)
Life-cycle controls	Control variables	Age of household head	Self-Developed based on the (Ando and Modigliani's, 1963) Life-Cycle Hypothesis

IV.IV. Analysis and Interpretation

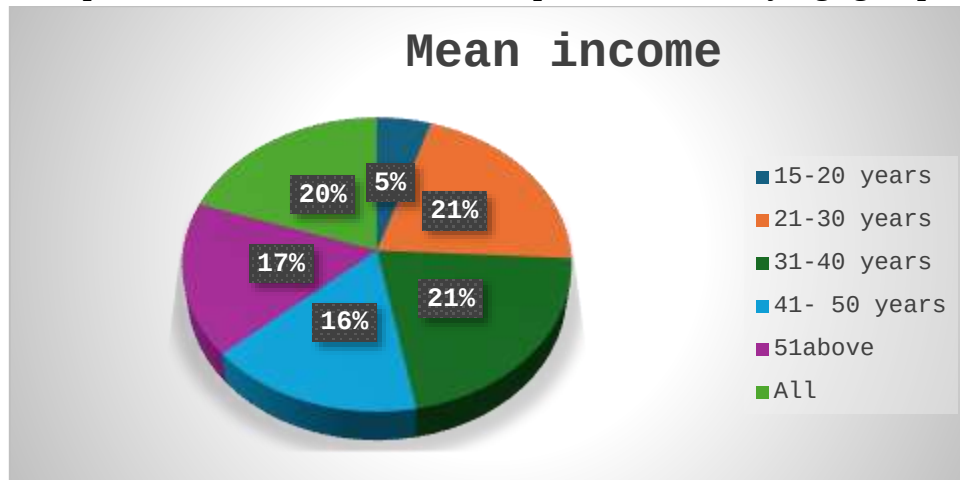
The analysis examined the relationship between Income, Consumption, and Saving Behaviour and specifically tested whether Consumption mediates the relationship between Income and Saving Behavior. The study was based on 201 valid observations.

Table No. 2. Demographic and Socio- economic Details of the Respondents.

Category		frequency	percentage
Gender	Male	155	77.1
	female	46	22.9
Age (years)	15-20 years	1	.5
	21-30 years	73	36.3
	31-40 years	69	34.3
	41- 50 years	31	15.4
	51above	27	13.4
Education	No Formal Education	25	12.4
	Matriculation	68	33.8
	Higher Education	61	30.3
	Graduate	28	13.9
	Post Graduate	19	9.5
	Farming and Agriculture	71	35.3
	Daily wage labour	9	4.5

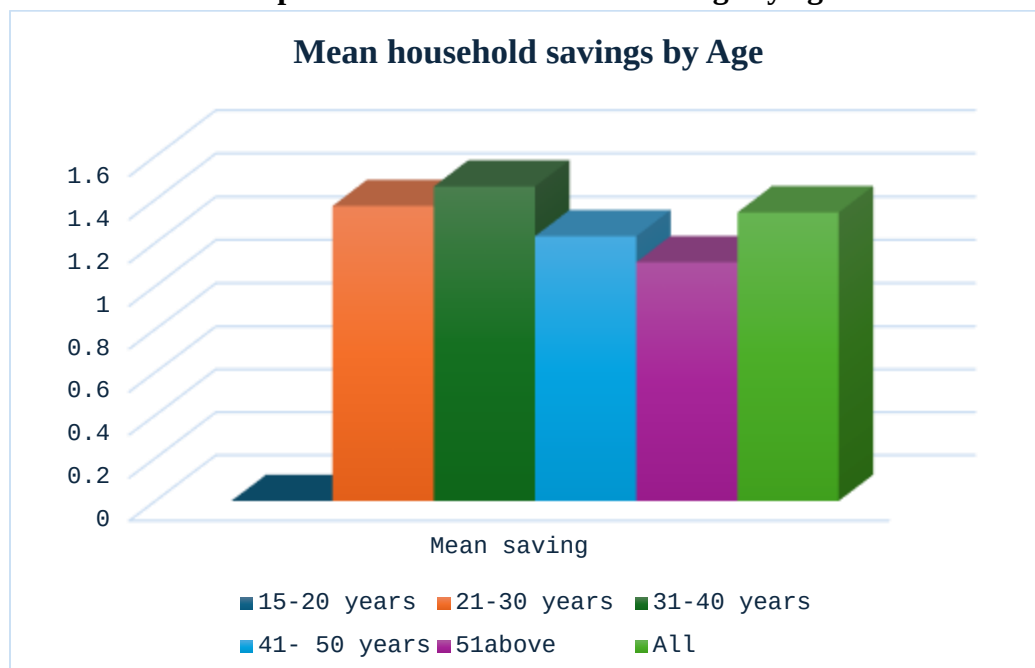
Occupation	Government Employment	18	9.0
	private sector Employment	64	31.8
	Self-employment/business/shopkeeping	17	8.5
	Livestock, poultry, piggery, dairy, fisheries	4	2.0
	Other	18	9.0

Graph No. 1. Mean of Household Disposable income by Age groups.



Graph No. 1 shows the mean income across different age groups of respondents. The overall mean income was 3.99. The highest mean income was reported by respondents aged 31–40 years ($M = 4.29$), followed by those aged 21–30 years ($M = 4.23$), while the lowest mean income was observed among respondents aged 15–20 years ($M = 1.00$). The results indicate variations in income across age groups.

Graph No. 2. Mean household savings by age



Graph No. 4 shows the mean household savings across different age groups of respondents. The overall mean saving was 1.34. The highest mean saving was recorded among respondents aged 31–40 years ($M = 1.46$), followed by those aged 21–30 years ($M = 1.37$), while the lowest mean saving was observed among the 15–20 years age group ($M = 0.00$). The results indicate variations in saving behaviour across age groups.

Table No. 3. Descriptive Statistic of Study Variable (N=201)

Variable	Min	Max	Mean	SD
Income	1	8	3.99	2.169
Consumption	1	8	3.81	1.923
Saving	0	8	1.34	1.380

Table no. 1 presents the descriptive statistics for Income, Consumption, and Saving. The sample consisted of 201 respondents. Income recorded the highest mean score ($M = 3.99$, $SD = 2.169$), followed by Consumption ($M = 3.81$, $SD = 1.923$). Saving showed the lowest mean score ($M = 1.34$, $SD = 1.380$). The standard deviations indicate moderate variability among respondents for all three variables.

Table No. 4. Normality Statistics of Study Variables

variable	skewness	SE	Z(skewness)	Kurtosis	SE	Z(kurtosis)
Income	0.497	0.172	2.890	-0.983	0.341	-2.883
Consumption	0.467	0.172	2.715	-0.753	0.341	-2.208
Saving	1.517	0.172	8.820	2.246	0.341	6.587

All six z-values fall outside the ± 1.96 range, although the z-scores of skewness and kurtosis exceeded the criterion, indicating statistically significant departures from normality, this result is likely influenced by the relatively large sample size ($N=201$) which increases the sensitivity of the test. The raw skewness and kurtosis values remained within commonly accepted thresholds (± 2 for skewness and ± 7 for kurtosis) suggesting that the variable did not exhibit substantial non-normality. Therefore, the data were considered sufficiently normal for the analyses conducted in this study.

Table No. 5. Pearson Correlation Matrix

Variable	1	2	3
Income	1		
Consumption	.763	1	
Saving	.611	.490	1

Pearson correlation analysis revealed significant positive relationships among all three variables. Income was strongly and positively correlated with Consumption ($r = .763$, $p < .001$), while Income was also positively correlated with Saving Behavior ($r = .611$, $p < .001$). Consumption and Saving Behavior were positively correlated as well ($r = .490$, $p < .001$). The correlation between Income and Consumption was below the .90 threshold, indicating that severe multicollinearity was not a concern.

Table No. 6. Mediation Analysis Results

Hypothesis	Path	β	SE	t	p	Decision
H1a	Income $\rightarrow$ Consumption	.676	.041	16.650	.000	Supported
H1b	Consumption $\rightarrow$ Saving	.041	.062	0.656	.513	Not Supported
Direct Effect	Income $\rightarrow$ Saving	.361	.055	6.533	.000	Significant
Total Effect	Income $\rightarrow$ Saving	.389	.036	10.896	.000	Significant

Interpretation of H1a (Income $\rightarrow$ Consumption)

The results indicate that income has a significant positive effect on consumption ($\beta = .676$, $p < .001$).

H1a is supported. Income has a significant positive relationship with consumption.

Interpretation of H1b (Consumption $\rightarrow$ Saving)

H1b is not supported by the results. Although the correlation analysis showed a positive association between consumption and saving ($r = .490$, $p < .001$), the mediation model shows that consumption does not significantly predict saving after income is controlled ($\beta = .041$, $p = .513$).

H1b is not supported. Consumption does not significantly predict saving after controlling for income

Table No. 7. Bootstrap Mediation Results: Indirect Effect of Income on Saving through Consumptions

Mediator	Effect	Boot SE	LLCI	ULCI	Results
Consumption	.028	.048	-.073	.120	Not Significant

The indirect effect of income on saving through consumption was 0.028, with a 95% bootstrap confidence interval of [-0.073, 0.120]. Since the confidence interval includes zero, the indirect effect is not statistically significant. Therefore, H1 is not supported. The findings indicate that consumption does not mediate the relationship between income and saving, and income influences saving directly ($\beta = .361$, $p < .001$).

Table No. 8. KMO and Bartlett's Test

Test	Statistics	value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	KMO	.762
Bartlett's Test of Sphericity	Approx. Chi-Square	1313.558
	df	91
	Sig.	.001

The KMO value of 0.762 indicates adequate sampling adequacy for factor analysis. Bartlett's Test of Sphericity was statistically significant, $\chi^2(91) = 1313.558$, $p < .001$, indicating that the correlation matrix is suitable for factor analysis. Therefore, the data were considered appropriate for conducting factor analysis.

Table No. 9. Reliability Results

Factor	Items	1	2	3	4	Cronbach's Alpha
Harvest uncertainty	IUH1	.840				.890
	IUH2	.844				
	IUH3	.868				
	IUH4	.859				
Health uncertainty	IUHEALTH1				.816	.714
	IUHEALTH2				.870	
	IUHEALTH3				.785	
Unemployed uncertainty	IUEMPLOYED1		.791			.795
	IUEMPLOYED2		.750			
	IUEMPLOYED3		.780			
	IUEMPLOYED4		.735			
Social pressure on consumption	CBSC1			.851		.805
	CBSC2			.793		
	CBSC3			.828		

The reliability analysis indicates satisfactory internal consistency among all the study constructs. Harvest Uncertainty demonstrated excellent reliability ($\alpha = .890$), while Employment Uncertainty ($\alpha = .795$) and Social Pressure ($\alpha = .805$) showed good internal consistency. Health Uncertainty also demonstrated acceptable reliability ($\alpha = .714$). Since all Cronbach's alpha values exceed the commonly accepted threshold of .70, the scales were considered reliable for further analysis.

Table No. 10. Moderating Effect of Uncertainty on the Relationship between Income and Consumption

Uncertainty dimension	Income × Uncertainty (β)	SE	t	p	95% CI	ΔR^2	Decision
Uncertainty of Harvesting	.079	.057	1.384	.168	[-.033, .191]	.004	Not significant
Employment Uncertainty	-.008	.062	-.128	.898	[-.131, .115]	.000	Not significant
Health Uncertainty	.049	.071*	688*	.487	[-.089, .187]	.001	Not significant

Interpretation of H2

The moderation analyses were conducted to determine whether uncertainty weakens the relationship between income and consumption. The results show that none of the three dimensions of uncertainty significantly moderated the relationship between income and consumption. For Uncertainty of Harvesting, the interaction between income and uncertainty was not statistically significant ($\beta = .079$, $p = .168$, 95%

CI [-.033, .191]). Although the interaction coefficient is positive rather than negative, its confidence interval includes zero. Therefore, there is no evidence that harvesting uncertainty changes the strength of the income–consumption relationship.

Similarly, Employment Uncertainty did not significantly moderate the relationship between income and consumption ($\beta = -.008$, $p = .898$, 95% CI [-.131, .115]). The interaction effect is extremely small and statistically insignificant.

Finally, Health Uncertainty also failed to significantly moderate the relationship ($\beta = .049$, $p = .487$, 95% CI [-.089, .187]). The confidence interval includes zero, indicating that the interaction is not statistically different from zero.

H2 is not supported. None of the three uncertainty dimensions significantly weakens or otherwise changes the relationship between income and consumption.

Table No. 11. Index of Moderated Mediation

Uncertainty dimension	Index of moderated mediation	Boot SE	Boot LLCI	Boot ULCI	Decision
Uncertainty of Harvesting	.0032	.0073	-.0083	.0218	Not significant
Employment Uncertainty	-.0003	.0059	-.0090	.0164	Not significant
Health Uncertainty	.0020	.0080	-.0090	.0240	Not significant

Interpretation of H3

The moderated mediation analysis examined whether the indirect relationship between income and saving through consumption varies according to the level of uncertainty.

For Uncertainty of Harvesting, the index of moderated mediation was .0032, with a 95% bootstrap confidence interval of [-.0083, .0218]. Because the confidence interval includes zero, there is no statistically significant evidence that harvesting uncertainty changes the indirect effect of income on saving through consumption.

For Employment Uncertainty, the index was -.0003, with a 95% bootstrap confidence interval of [-.0090, .0164]. Again, the confidence interval includes zero, indicating that employment uncertainty does not significantly moderate the indirect effect.

For Health Uncertainty, the index of moderated mediation was .0020, with a 95% bootstrap confidence interval of [-.0090, .0240]. Since zero falls within the confidence interval, the moderated mediation effect is also not statistically significant. Thus, none of the three forms of uncertainty significantly changes the indirect effect of income on saving through consumption.

H3 is not supported. Uncertainty does not significantly moderate the indirect effect of income on saving through consumption.

Influence of social pressure on consumption.

Table No. 12. Descriptive Statistics

	N	min	max	mean	Std.Deviation
Social pressure	201	1.00	5.00	2.5854	.84559
Consumption	201	1	8	3.81	1.923
Valid N(listwise)	201				

The mean score for **Social Pressure (CBSC)** was **2.59** (SD = 0.85), indicating a moderate level of social pressure among respondents. The mean score for **Consumption (CONSUM)** was **3.81** (SD = 1.92).

Table No.13. Regression Coefficient

predictor	B	Beta	t	p
Social pressure	0.374	0.165	2.353	0.020

Social pressure significantly and positively influences household consumption ($B = 0.374$, $\beta = .165$, $p = .020$). A one-unit increase in social pressure is associated with a 0.374-unit increase in consumption. Although the effect is statistically significant, its magnitude is relatively small, as social pressure accounts for only 2.7% of the variation in consumption.

V. DISCUSSION

V.I. Income and consumption (Objective 1)

The study found that income plays a central role in determining household consumption among rural households in Manipur. This finding is consistent with Keynes' Absolute Income Hypothesis, which state that household's consumption increases as income increases. In rural settings, where households depend heavily on agriculture, wage labour and other unstable income sources, additional income is often used to satisfied basic needs such as food, education, healthcare, transportation and agriculture inputs. The finding also supports previous empirical studies that reported a positive relationship between income and consumption. The result suggests that income remains the primary driver of household spending decisions and those improvements in households' earnings directly enhance consumption capacity.

V.II. Consumption and Saving (Objective 2)

Although consumption and saving are conceptually linked, the finding suggests that consumption does not independently explain saving behaviour once income is taken into account. This indicates that saving decisions among rural households may depend more on the availability of surplus income than on deliberate reductions in consumption. Many households in rural Manipur face essential and unavoidable expenditures related to food, healthcare, education, farming activities and social obligations. As a result, consumption may be relatively inflexible, leaving income as a dominant factor determining whether households are able to save. This finding differs from studies that identify consumption restraint as a major determinant of saving and suggests that households' financial behaviour in rural areas may operate differently from theoretical expectations.

V.III. Consumption as a mediator between Income and Saving (Objective 3)

The study did not find evidence that consumption serves as the mechanism through which income affects

saving. Instead, income appears to influence saving directly. This finding suggests that increases in income may create saving opportunities without necessarily requiring changes in consumption patterns. Rural households may first satisfy necessary consumption requirement and allocate any remaining resources to saving. Consequently, the relationship between income and saving appears to be more direct than indirect. The finding contrasts with studies that propose consumption as the primary pathway connecting income and saving but may reflect the realities of rural economies where household expenditure is largely necessity-driven rather than discretionary.

V.IV. Uncertainty as Moderator of the Income-Consumption Relationship (Objective 4)

The findings indicate that uncertainty does not substantially alter the relationship between income and consumption. Whether households experienced higher or lower levels of harvest uncertainty, employment uncertainty or health uncertainty, income remained the dominant factor influencing consumption decisions. One possible explanation is that uncertainty is a common feature of everyday life in rural communities. Households may therefore develop coping strategies that allow them to maintain relatively stable consumption patterns despite uncertainty. Essential expenditures cannot easily be postponed, and households may continue consuming necessary goods and services regardless of future risks. This finding suggests that uncertainty may not be strong enough to weaken the income-consumption relationship in the study area.

V.V. Uncertainty as a Moderator of the Indirect Effect of Income on Saving Through Consumption (Objective 5)

The study also found that uncertainty does not influence the indirect pathway linking income, consumption and saving. This suggests that the process through which income affects households' financial behaviour remains largely unchanged across different levels of uncertainty. Although precautionary saving theories argue that uncertainty should alter households' decision-making, the findings imply that income availability remains more important than uncertainty in shaping both consumption and saving behaviour. In the context of rural Manipur, households may respond to uncertainty through mechanisms other than adjusting consumption or saving patterns such as borrowing, relying on social networks, diversifying income sources, reducing non-essential expenditures.

V.VI. Social Pressure and Consumption (Supplementary predictor)

The findings highlight the importance of social influences on household consumption behaviour. Rural households are embedded within social and cultural environments that create expectations regarding participation in community events, ceremonies, festivals, weddings and other social obligations. These expectations can encourage households to increase spending in order to maintain social relationships and community standing. The finding supports Duesenberry's Relative Income Hypothesis, which emphasizes the role of social comparison and social expectation in shaping consumption decisions. However, the results also suggest that social pressure is secondary to income as a determinant of consumption. While social influences matter, household spending remains primarily constrained by available economic resources.

V. VII. Life-cycle controls (control variables)

These findings are broadly consistent with Ando and Modigliani's (1963) Life-Cycle Hypothesis, which propose that individuals seek to smooth consumptions over their lifetime. According to the theory, younger individuals generally earn lower incomes and have limited capacity to save, while middle-aged individuals experience higher earnings and accumulate savings, as individuals grow older and move beyond their peak earning years, saving may decline as resources are used to maintain consumption and

meet household needs. The higher levels of income and saving among respondents aged 21-40 years therefore reflect the economically productive phase of the life cycle, where as the lower level among younger and older age groups are consistent with the life cycle pattern of income generation and asset accumulation.

VI. CONCLUSION

This study examined whether consumption mediates the relationship between income and saving and whether perceived uncertainty moderates this relationship among rural households in Manipur. The findings revealed that income has a significantly positive affects both on consumption and saving. However, consumption did not significantly predict saving after controlling for income and the indirect effect of income on saving through consumption was not significant. Furthermore, Harvest uncertainty, Health uncertainty and Employment uncertainty did not significantly moderate the relationship between income and consumption relationship or the indirect effect of income on saving through consumption. Overall, the findings indicate that saving behaviour among rural rural households in Manipur is influenced primarily by income rather than by consumption- based mechanism. The result also indicates that uncertainty does not uniformly alter these relationships. The study contributes to the understanding rural household financial behaviour and highlights the importance of income as the key determinant of both consumption and saving. Future research may consider additional factors, such as social norm, financial inclusion and household characteristics and access to financial services to provide a comprehensive explanation of saving behaviour among rural households.

VII. THEORETICAL IMPLICATIONS

This study's findings carry several implications for the theoretical framework developed. First, the strong support for H1a reaffirms the Absolute Income Hypothesis (Keynes, 1936) as a robust baseline description of rural household behaviour; income remains the single strongest predictor of consumption in this setting. Second, and more consequentially, the non-support for H1b and H1 challenges the specific mediation logic advanced in this, that consumption behaviour is the primary mechanism through which income differences become saving differences. Rather than mediating the income-saving relationship, consumption and saving appear to be shaped by income through two largely parallel, direct pathways in this sample. This suggests that models of rural household financial behaviour may need to treat saving as being determined more directly by income-linked mechanisms than by the residual, sequential logic implied by the Keynesian identity ($\text{saving} = \text{income} - \text{consumption}$).

Third, the non-support for H2 and H3 qualifies precautionary saving theory (Leland, 1968; Kimball, 1990) and buffer stock models (Deaton; Carroll, 1997) as applied to this population. Rather than contradicting these theories outright, the findings are more consistent with the heterogeneity-based refinements offered by (Kosar and Melcangi 2025) and loss aversion explanation offered by (Bui et al.,2022); the precautionary mechanism may operate but not uniformly or linearly across a population facing pervasively high and relatively undifferentiated uncertainty. This suggested precautionary saving theory, in an agrarian setting characterized by chronic rather than variable risk exposure, may require a reformulation that accounts for uncertainty as a near-constant background condition rather than a meaningfully varying moderator.

Finally, the significant, independent effect of Social Pressure on Consumption offers modest but genuine support for Duesenberry's Relative Income Hypothesis.

VIII. PRACTICAL IMPLICATION

These findings carry important implications for policy and practice targeting rural household financial behaviour in Manipur. Since income emerged as the dominant direct driver of both consumption and saving, policies aimed at improving household saving are likely to be more effective when they focus on strengthening and stabilizing rural incomes rather than attempting to alter consumption habits directly. Measures that enhance livelihood opportunities, agriculture productivity, and income security may therefore contribute more effectively to increased saving. Furthermore, the significant influence of social pressure on consumption suggests that financial literacy and saving promotion programmes should explicitly address social and ceremonial spending norms. Encouraging greater awareness of the long-term financial consequences of excessive social expenditure may help households balance social obligations with financial well-being.

IX. LIMITATIONS

This study has several limitations that should be considered when interpreting the findings. First, Income, Consumption, and saving were measured using bracketed (ordinal) response categories recoded to interval-level codes for statistical analysis; while this reduced respondent burden and minimize non-response, it may have introduced some measurement imprecision compared with the use of exact continuous monetary data. Second, Uncertainty was measured through household self-report (Likert-scale perception items) rather than objective, external indicators (e.g., realised rainfall variability, actual health-expenditure records), which may not fully capture the objective risk environment each household faces. Third, the sample was drawn from rural Manipur and is not necessarily representative of rural households elsewhere in India or in other agrarian developing-country contexts; the null H2/H3 findings, in particular, may be specific to a population facing pervasively high and relatively homogeneous uncertainty, and may not generalize to settings with greater between-household variation in risk exposure.

X. FUTURE RESEARCH DIRECTION

Future studies could extend the present study by disaggregating household consumption into different categories such as routine consumption, ceremonial or social expenditure to test whether specific consumption components rather than aggregate consumption mediate the income-saving relationship. In addition, given the non-significant moderation effects observed in this study, future research could examine uncertainty's moderating role using objective, externally validated risk-measures indicators such as historical rainfall variability, documented crop losses, actual health-expenditure shocks or employment instability records could be used alongside instead of subjective self-report scales. Such an approach would help determine whether the null findings for the moderating hypotheses (H2, H3) are attributable to the use of perceived uncertainty measures or whether uncertainty genuinely has a limited moderating effect on the relationship between income, consumption and saving among rural households.

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