Unlocking Gold Investment Preferences in Northeast India: A TOPSIS Analysis

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Abstract:*Gold exhibits the essential characteristics of substantial trading activity, tight spreads, and price stability even during financial crisis. Therefore, Gold is a preferred investment mode for Indians as it can be bought, sold and invested in multiple forms such as physical gold, gold bonds, digital gold, etc. Gold's significance varies; in Northeast India, it's tied to cultural rituals, while elsewhere it's a wealth stabilizer and status symbol. The evidence from the research states that the preference of investors in gold varies based on the investment criteria. The findings are based on gold investment culture survey responses from 385 respondents of Northeastern Region (NER) of India using a structured survey Instrument. It identifies the preference of alternative gold investment avenues by using the Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) as one of the Multi-Criteria Decision Analysis (MCDA) methods. First choice is the Physical Gold due to features like return, liquidity, ease of acquisition, quality, etc., followed by the Sovereign Gold Bond (SGBs).*

Keywords: Gold, Investment Preference, Northeast India, TOPSIS, MCDA

INTRODUCTION

Gold is sign of wealth and ornamentation, dating back to the Vedas. Besides being the best investment option for the public, it has also been regarded as a source of pride ownership. Gold is utilised as a medium of exchange in international trade. Gold is an important mode of investment, among major population in India. Individual perceptions of gold investing vary across geography due to characteristics such as risk-carrying ability, risk diversification, and financial wellbeing. Laxmi Priya (2021), Humanity has long association with Gold. For Indians, gold is more than just a precious metal. World Gold Council (2025), Indians purchase roughly 800 tonnes of gold annually, largely to be melted down into jewellery, accounting for 25 percent of world's total. Trivedi & Patel (2024), gold is treasured that adeptly merges modernity and tradition, making it stand out in India's investment landscape. Garg (2020), Gold is considered a good portfolio diversifier, as it gives financial coverage in geopolitical and macroeconomic uncertainty.

However, with the evolution of various modern financial instruments such as*Gold Futures (GFs), Gold Exchange Traded Fund (Gold ETFs) and Sovereign Gold Bond (SGBs)*offer attractive features against *Physical Gold.(Gold ETFs) and (SGBs)*aremostfavoured notable modern synthetic instruments. Since inception in the mid-2000s, *Gold ETFs* offer investors a convenient and cost-efficient means of gaining exposure to gold prices, eliminating worries about physical storage and purity. They are listed on stock exchanges, providing both liquidity and transparency. Since initiation by GOI in 2015, *(SGBs)* seek to provide an alternative investment plummeting demand of physical gold import. If held until maturity, *SGBs* offer exposure to fluctuations in gold prices, an extra fixed interest rate, and considerable tax advantages.Suchitra et al. (2025), the conventional investment form in physical gold has been replaced by digital gold, being easily accessible, liquid, and convenient.

Prior to gold being considered in Indian financial system, an investment, investors were solely familiar with physical gold; however, the emergence of numerous paper forms of gold, such as *GETF, SGB, and Gold Futures*, has changed investors' preferences. The increasing awareness that gold investment behavior is not consistent especially in the Northeast, gold is typically associated with personal adornment and social rituals but in lighter, minimalist forms; the motivation and investment behaviour are influenced and shaped by unique cultural diversity of several ethnic

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groups and their economic realities; whereas in other regions of India it is considered as an additional source to stabilize family wealth, enhance social status and spiritual pursuit for good fortune. In this backdrop, examining preferences as gold investment in Northeast will reveal how traditional beliefs co-exist with new modern digital financial instruments, given the region's distinct cultural diversity, younger demographic profile, and changing financial investment landscape. This article aims to determine whether investors prefer to continue to invest in physical or digital gold.

REVIEW OF LITERATURE

Existing literature (Aluru, 2023; Ganesamurthy & Anjuka, 2025; Khandelwal, 2022; Lidhade, 2025; Nawaz & Sudindra, 2013) opined physical gold is hassle-free, highly liquid, and easily available. Further, Suchitra et al. (2025), although digital gold is more liquid, cheaper and easier to access than physical gold, investor preference for traditional physical gold still holds. Moreover, returns cannot be the solitary reason for investors transitioning to digital gold, as this also reflects emotional and cultural sentiments in their investment behaviour. Digital gold brings the prospect of growth through fintech evolution coupled with potential government intervention.

On the contrary, (Gowrishankkar & Jayasuriya, 2025; Kumar & Raj G, 2019), Digital gold is effective investment in gold. However, limited knowledge, safety, regulations, and psychological biases continue to be major obstacles to adoption (Darshana & Ponnumani, 2024). On the other hand (Sudindra & Naidu, 2019; Verma & et al, 2020), state that *SGBs* is superior form of synthetic gold investment, considering the various feature of return, risk, purity, safety, etc.

Gaikwad and Petkar, (2022) state that even though the Gold ETF and SGB as alternatives, outperform physical gold options but their demand is increasing slowly, and consumer preferences are shifting. Further, physical Gold remains a dependable and well-established value store, offering tangible stability and enduring security. Digital gold opens new opportunities and attracts young, tech-savvy investors by providing convenience, liquidity, and links to modern financial institutions (Nowsath & Arunprakash, 2025).

This study tries to bridge the gap to understand the gold preferred investment avenues in the Northeastern Region of India by offering empirical evidence based on various determining factors of investment such as, Return, Liquidity (Ease of Encashment), Safety, Making / Wastage & Other Transaction Cost, Tax on Purchases / Tax incentives, Cost Efficient, Transferability of Ownership, Status Symbol, Ease to Acquire, Quality Assurance, Purchase in Smaller Denomination and Possibility of Pledge.

METHODOLOGY

This study is purely relied on primary data; the area of the survey was confined to the India's Northeastern Regioncomprising following states of Arunachal Pradesh, Assam, Mizoram, Meghalaya, Manipur, Nagaland, Tripura, and Sikkim. The sample frame is infinite; therefore, we chose the convenience sampling technique, under which the non-probability sampling was applied. The optimal sample size is determined using Rao soft software, with a population sample of infinite at 95 percentage level of confidence, the adequate sample is 385.The detailed breakup of the sampling distribution among the eight different states of the Northeastern region in India is exhibited in *Table 1*.

The studyused a well-structured pre tested questionnaire as the data collection instrument during the primary sample survey to capture the Investors to identify avenuepreferencesfor alternative gold investment on the basis of 12 criterion such as, Return, Liquidity (Ease of Encashment), Safety, Making / Wastage & Other Transaction Cost, Tax on Purchases / Tax incentives, Cost Efficient, Transferability of Ownership, Status Symbol, Ease to Acquire, Quality Assurance, Purchase in Smaller Denomination and Possibility of Pledge which has been measured by 5-point preference scale denoting 1 = Least preferable to 5 = Highly preferable.

Further the collected data is entered into electronic spreadsheet to do basic data cleaning, codification and to perform the summative scores for investor's preference regarding various gold alternative *(Physical Gold, GFs, Gold ETF's, SGBs)* on the basis of 12 criterion for the analytical convivence it was reduced into 4 uncorrelated factors such as [1]. Safety and Transferability, [2]. Return on Investment, [3]. Cost of Holding, [4]. Tax Implication, Principal Component Analysis (PCA) factor analysis for assigning the weight for the Priority ranking of the various gold investment avenues is exhibited in *Table 2* .

Table 1: Demographic Data Profiling of Sample

Demographic Characteristics of sample (n=385)	Arunachal Pradesh (n=46)	Assam (n=48)	Meghalaya (n=44)	Manipur (n=49)	Mizoram (n=45)	Nagaland (n=45)	Sikkim (n=62)	Tripura (n=45)	Total
Locality *(Urban)*	7.8	10.1	10.1	8.8	7.5	8.3	11.4	8.8	72.8
Gender *(Female)*	6	8.1	7	7	6.2	5.5	5.2	6.2	51.2
Age Group *(21 - 40 Yrs.)*	10.4	9.9	9.4	10.4	10.6	10.6	13.2	9.1	83.6
Marital Status *(Married)*	4.7	6.2	4.4	4.4	6.2	4.9	8.8	4.7	44.3
Types of Family *(Nuclear)*	6.5	7.5	7.3	8.3	7.5	7.5	10.6	7	62.3
Family Size *(2-5 members)*	6.5	7.5	7.3	8.3	7.8	7.5	10.6	7	62.6

Source: Primary survey

Table 2: The Factor Weights Based on Principal Component Analysis (PCA), the Gold Investment Decision Criterion

Statements	Component (Factors)				Total Factor Weight			
Easy to purchase	0.872				9.737			
Possibility of Pledge	0.806				8.998			
quality	0.799				8.929			
Status	0.765				8.544			
Ownership transfer	0.682				7.618			
Small denomination	0.676				7.547			
Safety	0.656				7.328			
Liquidity		0.599				6.692		
Return		0.827				9.236		
Cost			0.789				8.817	
Cost efficient			0.593				6.624	
Tax				0.889				9.929
Total	**5.256**	**1.426**	**1.383**	**0.889**	**59**	**16**	**15**	**10**

Source: Primary survey | Calculated by Authors

The Multi-Criteria Decision Analysis (MCDA) methods known as the Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) was initially developed by Ching-Lai Hwang and Yoon in 1981, with further advancements made by Yoon in 1987 and by Huwang, Lai, and Liu in 1993. According to Vásquez et al., (2021), the TOPSIS multi-criteria method enables the hierarchical evaluation of a limited number of alternatives based on both qualitative and quantitative criteria. Vojtekova & Gajdosikova, (2024) TOPSIS is considered an important method used in multi-criteria Decision-Making, mainly for addressing different decision-making problems. In addition to that, Potcovaru et al., (2025), the most effective multi-criteria decision-making technique is the TOPSIS method, especially due to its high consistency and comparatively low computational complexity.

The following are the steps for calculating the TOPSIS Method identifying preferred mode of gold investment avenues grounded on gold investment selection criteria

(1). Create a Matrix using M alternatives and N criteria. This matrix is also called an evaluation matrix.

$$(aij)\ m * n$$

Here, m represents the various types of gold investment avenues like Physical Gold, SGB, Gold Future and GETFs, and n depicts the various characteristics of gold investment avenues.

(2). Calculate the evaluation Normalized matrix.

$$\propto ij = \frac{aij}{\sqrt{\sum_i^m = 1(aij)^2}}$$

(3). Calculate the weighted Normalized matrix,

$$\chi_{ij} = \propto_{ij} *\ w_j\ ;\ w_j = \frac{w_j}{\sum_{j=1}^{n} w_j}\ ;\ \sum_{j=1}^{n} w_j = 1$$

where each criterion is assigned a weight. The sum of all weights will be equal to one; here, weight resultant from Principal Component Analysis (PCA) factor analysis based on various investment criteria such as security, safety, tax implications, earning capacity, ease of investment, and time commitment.

(4). Calculate the ideal best and ideal worst alternative for each criterion:

$$\chi_j^b = MAX_{i=1}^m \chi_j^i\ ;\ \ \chi_j^w = MIN_{i=1}^m \chi_j^i$$

Here, founded on their characteristics (max and min) value is calculated for all the gold investment alternatives.

(5). Calculate the Euclidean distance from the Ideal worst

$$d_i^b = \sqrt{\sum_{j=1}^{n} (\chi_{ij} - \chi_j^b)^2}\ d_i^w = \sqrt{\sum_{j=1}^{n} (\chi_{ij} - \chi_j^w)^2}$$

Calculation of the geometric distance between value of each metric for a given gold alternative i and the best/worst value of such a metric among all gold alternatives.

(6). Calculating the preference score

$$si = \frac{d_i^w}{d_i^w + d_i^b}$$

Compute the score for each gold alternative founded on the distance obtained in the previous steps.

RESULTS

This study section focusses to evaluate the various gold investment alternative of *Physical Gold, GFs, Gold ETFs and SGBs* founded on uncorrelated investment selection criteria, grounded on Principal Component Analysis, employed to obtain the required factor weights, such as [1]. Safety & Transferability (59%), [2]. Return on Investment (16%), [3]. Cost of Holding (15%) and [4]. Tax implication (1%) for computing the summative priority score for different avenues of Gold Investments exhibited in *Table 3*.There are various gold alternatives available to investors in traditional and digital forms. The preferred mode of gold investment founded on TOPSIS analysis, is exhibited in *Table 4*.

Table 3: Representing the Weights and Summative Score of Each Criterion.

Gold Alternative	*Criteria 1* *Safety and Transferability*	*Criteria 2* *Return on Investment*	*Criteria 3* *Cost of Holding*	*Criteria 4* *Tax Implication*
Weight	0.59	0.16	0.15	0.1
Physical Gold	8254	2851	1924	955
Gold Futures	6061	1596	1742	839
Gold ETF	6065	1625	1726	836
Gold SGB	6045	1581	1715	835

Source: Primary survey | Calculated by Authors

Table 4: TOPSIS Analysis Results Showing the Investor's Investment Preference in Gold and Its' Alternatives in the Northeastern Region.

Gold and Its 'Alternatives	Pi (Performance Score)	Ranks
Physical Gold	0.926	1
Sovereign Gold Bonds (SGBs)	0.074	2
Gold Exchange Traded Funds (GETFs)	0.073	3
Gold Futures (Commodity Market)	0.066	4

Source: Primary survey | Calculated by Authors

DISCUSSION

Gold is considered one of the best investment avenues, which can protect an investor during the time of stock decline and inflation. Nawaz & Sudindra (2013), Indian Investor still prefers to make investments in gold jewellery, though it has many constraints. Especially in areas like Northeast India where demographic and cultural variety produce distinctive investing behaviors setting apart from other regions of the nation. In the Northeast, gold has greater symbolic cultural significance than economic worth, whereas in Southern India, it is closely associated with dowries, temple sacrifices, and large-scale family wealth creation. During tribal festivals, community ceremonies, and weddings, it is frequently worn as part of traditional clothing; nevertheless, it is typically worn in lighter, more understated forms rather than as a symbol of family or in elaborate ornaments.There are other forms of gold investment avenues, but investors are not familiar. Khandelwal & et al. (2022) studied the investors' preference regarding the various gold alternatives, suggesting investors' first preference is for gold jewelry, followed by *Gold ETFs and GFs*. Majority investors not aware of other gold

investment options and still favour physical gold, particularly jewellery, due to cultural attachment, ease of purchase, and perceived security, even though digital forms of gold, such as *Gold ETFs, GFs and SGBs,* offer advantages like safety, liquidity, and cost effectiveness. However, the study's geographical scope is a limitation and doesn't reflect gold investment behaviour in all parts of India, especially in the Northeast, where infrastructure, culture, economic conditions vary from those in the rest of the nation. Furthermore, the study mostly concentrates on gold-related investments, ignoring how other new investment opportunities—like real estate, mutual fund, stocksand digital assets—interact with or impact investors' decisions about gold. A thorough grasp of how local economic growth, market accessibility, and investor education all influence gold investment preferences within the larger financial ecosystem is hampered by this restricted focus. To obtain a comprehensive understanding of investment behavior across various regions of India, a broader geographical representation with comparison of various investment options can be the future scope of study.

CONCLUSION

The study emphasizes on preferred gold alternatives available to the investors. Majority investors hold gold for the symbol of status in the North Eastern Region, and for buying gold, investors preferred mode is through cash transactions, even though other digital modes of payment are available. Further, many of the investors prefer to invest during the steady fall of gold prices. The study evidence that the preferred mode of investment is physical gold, followed by *SGBs*. Still, majority of population from the Northeastern Region is unaware of the different digitalized form of gold investment. The Government, together with the concerned regulatory and financial institutions, should create a suitable ecosystem for sensitizing the population of the Northeastern Region towards creating awareness and channelizing their physical gold investment into other alternative digital gold investment avenues.

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