

Interactive Covariates on Decision to Buy or Investment in Gold (An empirical examination on Marwari Gold Investors)

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Abstract

Literatures on gold buying and investment supports in classifying two types of factors, i.e. variates factors, and the other set is covariates those having their inter-connection with resultant effects on Gold Buying. As the inter connection of the factors we can presume, obviously, these interaction among the factors anyhow effects on the decision of gold buying or gold investment by anyone who are consuming or investing in the gold of the world. The main objective of the study is to examine the interactions of fixed set of determinants with the mix of covariates in gold buying and investment decision by the investors in Assam (India). Secondly, aims to observe empirically on the layers of effects of interaction of the factors on decision to buy or to invest in the gold by gold buyers.

The study adopted mixed qualitative research design. It is partly exploratory and partly descriptive and empirical in nature. May be a part of exploration will be devoted for causal analysis to establish the factorial relations in the universe of the Marwari Businessmen in Guwahati City with population approximately 17,000. A sample at 5% level of significance and 5% confidence interval will be taken randomly for the purpose of the study. For the purpose of the study, data is proposed to be collected from primary as well as secondary source both. For collecting primary data the tool of questionnaire will be constructed. Data was analysed by using the various statistical tools and techniques. The statistical software-SPSS and Microsoft Excel will be deployed as the added facilitating tools for data analysis.

Key Words: Gold, Investment Decision, ETF, Gold Certificate, Buying Decision, Marwari Community, Assam

Relational Factors Effecting on Investment in Gold

We understand that gold investment is influenced by various factors which may be financial, societal, personal, demographic and cultural factors. Studies are illustrating the importance of these factors. There are some fixed factors, i.e., safety, return, liquidity, stability, hedge against inflation and price along with the variable factors that are status symbol, culture, common belief and religious activity. In the literature it is described that how fixed factors and covariates interact together. Das, S. and Jain, R (2014)ⁱ stated that the return from the gold as an objective is influenced by education. With different educational qualification, the ability to choose the investment will vary based on the return benefits that different investment avenue provides. As per Das, S and Jain, R., return is the fixed factor and the qualification is the variable factor. Arulmurugan, P., Balanagaguruthan, K. and Mirudhubashiniⁱⁱ (2013) stated in their paper on investment behaviour of professor towards Gold that Gold acts as a natural hedge against two

important macro-economic factors namely inflation(internal) and other currencies, however for the common man more than these factors the sheer values, the yellow metal is associated with, is mainly responsible. They revealed that hedge against inflation or other currencies is the fixed factor and the sheer value associated with gold is variable. Hundal, B.S., Grover, S. And Bhatia, J.K.ⁱⁱⁱ(2013),in their study on herd behaviour and gold investment by retail investors observed that investors are of varied personality type and have behavioural biases which impact the investment decision process. Factors such as income tax, time value of money, future prospects and profitability influence the retail investor's decision making process & gold is the most sought after asset due to its high liquidity, conventional value and cultural value features. They also stated high liquidity, conventional value and cultural value as the fixed factor in case of gold investment. Factors such as income tax, time value of money, future prospects and profitability are also important factor while deciding investment in gold. But, Sireesha, B.P. and Laxmi, S.C.^{iv}(2013) presented the results of empirical testing of impact of demographic factors on investment avenues selected by investors in the twin cities of Hyderabad and Secunderabad, India. It is found that gender, age and friends are mostly influencing the investment decisions of the respondents. It is concluded that the respondents of the study are conservative in nature and show less concern for money multiplication and liquidity. According to them, money multiplication and liquidity are not the fixed factor rather gender, age and friend are the fixed factor. Money multiplication and liquidity may be treated as the variable factor here. In the same way Singh and Nadda^v (2013) stated that Investment at any point of time in gold will yield some positive returns, so it is not risky for an investor while it is very tough task for an individual to invest in stocks until and unless he possesses technical knowledge involved with it. In their statement, it is appeared that time and return are the fixed factor and knowledge is the covariate. Kumar (2012)^{vi} stated that gold is considered as an investment with high value making it a reliable form of wealth. The actions of the people and the market trends drive the prices of gold. For the perspective gold buyer, it is important to understand the factors which influence the gold prices. This will help the buyer to analyse and invest in gold to direct towards more profit. Prices of gold are influenced by market trend and the action of the people. Market trend and the action of the people are acting as fixed factor and the price is covariate. Lutter and Soone^{vii} (2008) mentioned that one of the issues that could postpone or break the investment process (and also gold purchasing) is sudden price movements. People put investment decisions off when the price is shaking. If the price is increasing suddenly, investors feel as they have missed the right buying time and if it drops suddenly, they wait for the lowest place to buy or lose faith in the investment all together. Overall, sudden price drops are more discouraging than increases for the investors. This is proved by both this research and sales figures. The researcher had remarked that price is the fixed factor and the decision of the investment is dependent on it. The decision of the investment varies as according to the price varies. Lutter and Soone^{viii} (2008) showed that gold is already known and valued by the people for its stable nature and long tradition. This is a great advantage during the current uncertain economic times where trust-based investment instruments lose ground. Trust-based investment instruments (like stocks and bonds) are used more for earning profit whereas gold is regarded as long-term stable backbone of the portfolio. All the interview respondents said that they plan to hold gold and buy more if possible. They have stated stability and long tradition as the prime factor for investment in gold. Baur and McDermott^{ix} (2010) further examined the role of gold by testing the hypotheses that gold represents a safe haven against equities of developed and major emerging markets. Using data from 1979 to 2009, they showed that gold is both a safe haven and a hedge for major European equity markets and the US but not for Australia, Canada, Japan or other major emerging markets such as the BRIC countries (Brazil, Russia, India and China). They also showed that during the peak of the recent financial crisis gold demonstrated safe haven properties in most developed markets, but this was not the case for the Asian crisis. Ciner et. al.^x (2013) examined the return relations between five financial asset classes to determine whether these assets can be

considered as a hedge or safe haven against each other. In the earlier study Agarwala and Barman (2012)¹¹ in work entitled Investment in Gold--Businesses along the Symbolic Interpretation in Asia examined the how cultural as the variables effects on gold business in Asian Tigers. Using daily data from the US and the UK for the period of January 1990 and June 2010, they find that gold can be considered as a safe haven against exchange rates in both countries, highlighting its monetary asset role. These scholars had viewed that hedge or safe heaven as the fixed factor upon which return depends.

Factors' Interactions Effects on Gold Buying

Literatures on gold buying and investment supports in classifying two types of factors, i.e. variates factors, and the other set is covariates those having their inter-connection with resultant effects on Gold Buying. As the inter connection of the factors we can presume, obviously, these interaction among the factors anyhow effects on the decision of gold buying or gold investment by anyone who are consuming or investing in the gold of the world. We also can presume that there may be different degrees of interaction among the various factors. Such interaction may be positive interaction or negative interaction. In the literatures cited above, we have found positive as well as negative interaction. The factors such as safety, return, liquidity, stability, hedge against inflation, price are the main factors or fixed factors followed by the additional factors, such as status symbol, culture, common belief, religious activity, traditions and customs as the variables. Combining together both fixed and variable factors we may derive our desired result. Positive interaction among the factors always gives positive result and the negative interaction among factors may not give positive result.

Objectives of the Study

1. To examine the interactions of fixed set of determinants with the mix of covariates in gold buying and investment decision by the investors in Assam (India).
2. To observe empirically on the layers of effects of interaction of the factors on decision to buy or to invest in the gold by gold buyers.

Scope and Significance of the Study

This study mainly concentrated on the factors determining the investment in gold by Marwari businessmen and the relevant data would be collected. The study has highlighted the relative importance among the various factors influencing the decision of investment in gold by Marwari businessmen in Guwahati City. The relationships between investment behaviour of Marwari businessmen on gold and their financial wellness will also be covered under the study. All types of Marwari businessmen of Guwahati City will be covered. There are two forms of gold investment, i.e., Physical form of gold investment and non-physical form of gold investment or certificate form of gold investment.

Basically, the study will focus on the various factors like, personal, Psychological, Financial, Social and Cultural factors in broad sense. In this study, an empirical model of the factors determining the gold investment by Marwari community is tried to be developed.

Methodology

(a) Research Design and Type of Study

The study adopted mixed qualitative research design. It is partly exploratory and partly descriptive and empirical in nature. May be a part of exploration will be devoted for causal analysis to establish the factorial relations.

(b) Universe of Study

The Marwari Businessmen in Guwahati City will constitute the population for the study. Total number of Marwari population in Guwahati City is approximately 17,000.

(c) Sample Size

A sample at 5% level of significance and 5% confidence interval will be taken randomly for the purpose of the study.

(d) Sampling Unit

The Marwari Businessmen of Guwahati City will be the sampling unit of the study.

(e) Tools of Data Collection

For the purpose of the study, data is proposed to be collected from primary as well as secondary source both. For collecting primary data the tool of questionnaire will be constructed. The questionnaire will have three parts- Part-1 (personal profile related information); Part-II (Factors for investment decision). The first two parts contained mix of uni-dimensional questions and scale pattern. The Part-III of the questionnaire is financial wellness descriptors (Financial Wellness Metre comprised of statement to be assessed in 5 point attribute weight scale). Considering the nature of questions the entire questionnaire is formatted as multidimensional scale.

For secondary data, several Journals, Books, News Paper, Websites etc. will be consulted.

(f) Tools of Analysis

Once the data is collected, that will be analysed by using the various statistical tools and techniques. The exact tools and techniques to be used will be decided after the collection of data because only after looking into the nature and type of data, exact statistical tool can be used and applied. The statistical software-SPSS and Microsoft Excel will be deployed as the added facilitating tools for data analysis.

Sample Selection and Questionnaire Administration

To carry out the study “Factors Determining the Investment in Gold by Marwari Businessmen in Guwahati City, Assam” and also keeping the objectives in mind, prepared questionnaire and circulated among 850 Marwari Businessmen and Women residing in various parts of Guwahati City. Out of 850, only 402 have responded. It took around Seven Months

Factors Selection

Data will be collected based on the factors relevant to the investment decision.

Table-1		
SL NO	Factors	Attributes
	Personal	Age, MaritalStatus, Gender, Lifestyle, Biasness, Education, Occupation, Frequency of Investment And Income.
	Psychological	Attitude, Behaviour, Preference Level, Perception, Family Background, Expectation and Experience.
	Financial	Return on Investment, Price of Gold, Certainty of Return, Safety and Liquidity, Stable Return, Hedging against Inflation.
	Social	Religion, Community, Time, Market Situation, Information and Communication, Knowledge, Social Influence and Network.
	Cultural	Common Belief, Emotions, Customs, Customs, Tradition, Culture and Status of Symbol.
	Financial Wellness	Financial Stress, Financial Situation, Current Financial Situation, Financial Limit, Pay check to Pay check, Living Expenses, Financial Emergency and Finance in general.

time. During Data collection, some areas were merged under single heading like "Guwahati"-it includes basically some areas of GS Road, Rehabari includes certain adjacent areas. This is also to note that there are some businessmen who belong to the nearby towns and operate from Guwahati City. Names and Addresses appeared in the Trade Journal, Marwari Yuva Munch, Different Business Societies and Community Magazines were scanned and sequentialised to get the detailed list of Marwari Business Population in Guwahati City. Through this process, total of 17000 of Marwari Business People were found out and considered as the Universe of the sample. From the universe, i.e, 17000 Marwari Businessmen and Women, 5 persons against 100 men are selected randomly for administration of the questionnaire. Out of 17000 populations, the sample required is 376. At the time of pretesting of questionnaire, it was found that almost 1 Businessmen/women accepted and the other denied filling up the form but the situation was not same all the time. To get the filled up 40 questionnaires we had approached around 90 persons. Considering the experiences, 850 questionnaires were distributed for the sample size 376 even though the estimated ratio is 1:1. Later on 404 dully filled questionnaires was received whereas the sample size was 376 as calculated by Raosoft calculator. Since, this study is an exploratory study hence it is decided to use 404 questionnaires for further analysis and to derive the inferences.

Table-2 Sample Calculation		
Raosoft parameters	Calculator	Raosoft calculator
Acceptable Margin of Error		5%
Confidence level Typical Choices are: 90%,95%,or 99%.		95%
The population size If you don't know, use 20000.		17000
The response distribution? Leave this as 50%		50
Your recommended sample size is		376

The threshold Marginal error at the sample 300 will create error of 5.61% but the sample size created with the calculator determines 376. Therefore, the threshold limit of sample error will be reduced from the 5.61% to 5%.

Examining the Factors Interaction Effects

Here, in this section, how the different factors are interacting to create effect on investment decisions as well as gold buying are examined empirically. To examine empirically first classified the respondents who considers safety, return, liquidity, stability, hedge against inflation and finally price of gold while buying or investing the gold.

The table 5.1 states the numbers of respondents who considers those factors in investment of gold.

Table-3		
Factors Considered in Gold Investment	Between-Subjects Factors	
	(Yes)	(No)
Safety	146	258
Return	78	326
Liquidity	121	283
Stability	100	304
Hedge against Inflation	40	364
Price	51	353

In the table 5.2 is an examination of interaction effect of various factors in selection of various forms of gold.

Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared(η^2)
Model	Physical Gold	823.758	13	63.366	294.106	.000	.907
	Certificate Form of Gold	1484.081	13	114.160	1491.931	.000	.980
	Gold mining share	1584.302	13	121.869	6189.708	.000	.995
	Gold Accounts	1564.864	13	120.374	3878.342	.000	.992
Interaction Between Factors With the treating together whole fixed factors (Safety+ Return+ Liquidity+ Stability+ Hedge Against Inflation+ Price)+ Covariates (Status Symbol+ Culture+ Common Belief+ Religious Activity+ Traditions + Custom) ; Interaction of aggregate factors and the Interaction of individual covariates are treated in this predictive model.							
Error	Physical Gold	84.242	391	0.215			
	Certificate Form of Gold	29.919	391	0.077			
	Gold mining share	7.698	391	0.020			
	Gold Accounts	12.136	391	0.031			
Total	Physical Gold	908.000	404				
	Certificate Form of Gold	1514.000	404				
	Gold mining share	1592.000	404				
	Gold Accounts	1577.000	404				

In this analysis (Table-5.2), the interaction effects were statistically significant (level of Sig=0.000). The effects of interactions of independent over the dependent variables were shown in the table-5.2. Column labelled source lists incorporates variables which effects distinctively the outcome in the model. The second column displays the sum of squares for each effect. The degrees of freedom for each sum of squares is displayed in the column labelled df. The mean square of each effect is calculated by dividing the sum of squares by its degree of freedom. The F distribution & its significance value are displayed in the next column. The F statistics were calculated by dividing the mean square by mean square error which is very negligible by value indicates the variability of interactions of the fixed factor along with the covariates those directs in interpreting the result.

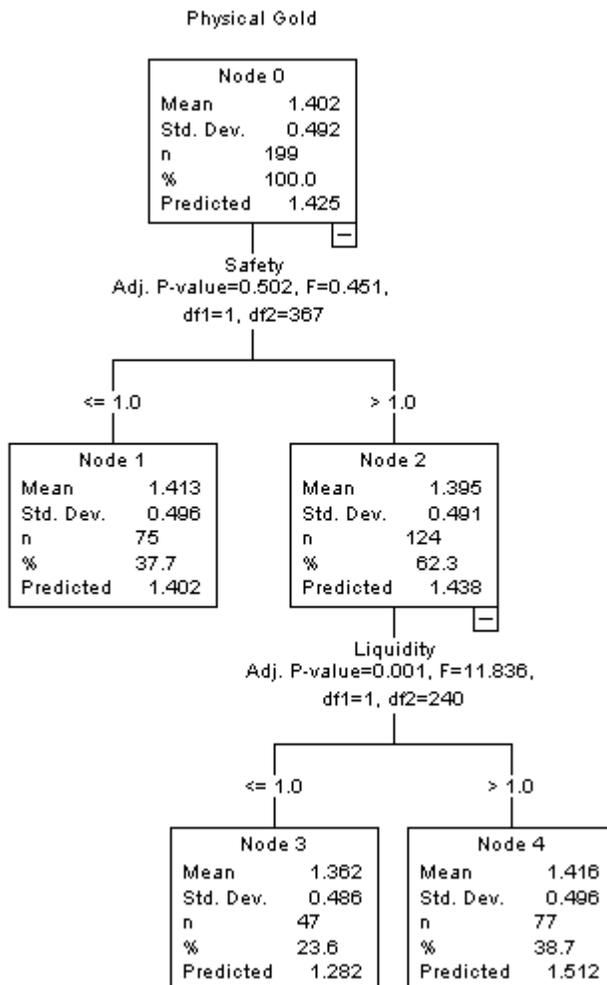
Factors Interaction	Effect Size		Interpretation
	Buying and investing	Partial Eta Square Value	
Fixed factors (Safety+ Return+ Liquidity+ Stability+ Hedge Against Inflation+ Price) + (Plus) Covariates (Status Symbol+ Culture+ Common Belief+ Religious Activity+ Traditions + Custom)	Physical Gold P= 0.000	0.907	Significantly High Interactive effects
	Certificate Form of Gold P=0.000	0.980	Significantly High Interactive effects
	Gold mining share P=0.000	0.995	Significantly High Interactive effects
	Gold Accounts P=0.000	0.992	Significantly High Interactive effects

In the table 5.3, it is appeared that in all the forms of investment in gold, i.e, in physical gold, certificate form of gold, gold mining shares, and in gold account, the variability of interactions between the fixed and variable factors are having significantly high impacts. All the factors irrespective of fixed factor along with the covariates plays a significant role while investment in gold as initiated by the Marwari Businessmen of Guwahati City.

Interactive Effects on Decision to buy 'Gold'

Considering both financial and social factors (Return, Liquidity, Stability, Hedge against Inflation, Price, Status Symbol, Culture, Common belief, Religious Activity, Tradition , Custom, Buying Gold is our Family Culture, Gold is a Status Symbol for me, I buy gold due to my emotion attached to it, Buying Gold is our custom, investment in gold is backed by our traditional values, I have an unknown feeling (biasness) that gold is one of best option to invest in it, short term profit seeking, steady income, long term profit seeking, future security, liquidity, safety) all together twenty three factors and their influences on the decision of investing in gold were executed the cluster analysis. Two factors, i.e.,safety and liquidity are the significant factors. The operation of the both the factors produce the level of influence while making investment in gold. After the analysis safety appeared as an insignificant factor **with** $P=0.502 > 95\%$ significance, $F= 0.451$, with Degree of freedom= 367 indicating as the insignificant factor out of all operated factors for investment in the gold as dependent value of Physical Gold Purchase in the figure-4.7. This exactly created on the basis of two exhibiting nodes on the extreme of node ≤ 1.0 with $n=75.0$ and ≥ 1.0 with $n= 124$ with a standard error count= $0.008 < 10$ percent .Moreover, along with safety, liquidity also emerges as one of the significant factorwith $P=0.001 < 95\%$ Significance, $F= 11.836$, with Degree of freedom= 240 indicating as the significant factor out of all operated factors for investment in the gold as dependent value of Physical Gold Purchase in the figure-4. 7. *This analysis emerge liquidity along with safety as one of the significant factor those influence on investing in physical gold by Marwari businessmen .Liquidity also has got two extreme of node ≤ 1.0 with $n=47.0$ and ≥ 1.0 with $n= 77$ with a standard error count= $0.008 < 10$ percent.*

Figure-1



Findings

The study mainly exposed the two outcomes empirically. They are-

1. Fixed factors (Safety+ Return+ Liquidity+ Stability+ Hedge Against Inflation+ Price) + (Plus) the covariates (Status Symbol+ Culture+ Common Belief+ Religious Activity+ Traditions + Custom) having high level significance on investing in any form of gold as examined in the study appeared in the table-4.
2. More investors who invest in gold considered physical gold as the safety and liquidity. Safety and liquidity impacts on the decision to buy the gold by the investor as reflected in this study. The study could expose to factorial and hierarchical structure of buyers and investors decision in investing gold.

Limitations and Conclusion

There are rare literature of evidences of study on the Marwari Businessmen and their investment behaviour in regard to gold at the Guwahati City. No evidence was found with respect to the various factors determining Gold Investment by Marwari Businessmen. Hence, this study may fill up literature gap and also fill the study gap on these businessmen in regards to Assam. Though the study suffered many initial limitations for empirical deduction and exploration, but the study could meaningfully achieve the objectives as stated on the above. The study could rigorously examined the interactions treating together the whole set whole fixed factors (such as safety+ return+ liquidity+ stability+ hedge against inflation+ price) plus the covariates (such as, status symbol+ culture+ common belief+ religious activity+ traditions + custom). Interactions of these aggregate factors with its individual covariates were treated separately to get a predictive model on fixed set of determinants with their covariates in gold buying and investment decision with special reference to the investors in Assam (India). The result of the study satisfied the hypotheses of earlier study made by Agarwala, Barman, and Sharma(2014)¹² under the caption of communities' behaviour in gold investment: an exploratory study in Guwahati City". The researcher could observe empirically on the layers of effects of interaction of the factors on decision to buy or to invest in the gold by gold buyers. This piece of study may serve as the unique source for further study on investment behaviour among the members of this community.

Declaration:

This paper is a part of outcome of the research leading to Ph.D. conducted by Mr. Dinesh Agarwala under the guidance of Dr. Arup Barman.

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