An Empirical Study on Behavioral Finance on Gold Investment with Special Reference to Material Gold

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Abstract- **Behavioral finance is arenas which have wild accumulation over human behavior and their psychology perusal. This subject entirely investigates feelings and emotional influence which was not perusing criteria in traditional investment theories which has been practiced for decades for financial analysis. Material gold is a medieval investment pattern which has been analyzed in the study with modern behavioral theories. This study focused on analyzing the risk factors impacting the investor's behavior pattern of investment on material gold. The study further guided on the relationship between the gender of investors and grounds influencing portfolio decision of material gold on selected respondents. The study has been analyzed with karl pearson's correlation model and regression test with a sample size of 130 selected respondents. The concluding observation is that the relationship between age and risk factor consideration of investment material gold does not exist and there is a relationship between gender and grounds of saving on material gold and hedging against the risk of inflation during investment behaviour.**

Keywords – Behavioral finance, Investment, Material gold, Psychology, Risk factors.

I. INTRODUCTION – BEHAVIORAL FINANCE

Behavioral finance is an interdisciplinary field of finance that deals with psychology and sociology factors of investment, the chain completely binds up with human behavior and the field focused on mental biased nature of human being. The impact of psychological deviation reflects on the outcome of responsiveness over the investment. Material gold the precious yellow metal rules the ideology of investment over decades, from the period of medieval age gold in some form act as an indicator of savings or exchange factors. One of the oldest patterns of investment in India where gold plays an important role in every household. The reason for investment differs but medium remains same in normal middle and lower income households. Behavioral finance is an integrative subject which examines the people's neuro reaction and emotions binding while making investment decisions in the existing world. The prime motive of this field of finance is to discover the shortcuts (heuristics) and neuro reactions that manipulate an individual's decision which involves the money or investment and how it leads them to go off from target. Researchers on behavioral ethics playing the role of discovering techniques to engage pragmatic tools to get better off from hurdle to possible extent. The field is fascinating to understand to acknowledge the investment decision. Behavioral finance could find better investigation in spreading the value of asset investing decisions. The study explains the behavioral nature of individuals and their reflection on the decision involving financial engagement. The existing research on this field is focusing on social behavior, with limited mathematical structure. From observation of social model deficiency and absurd, a factual analysis of difference between asset and its intrinsic value by examining the behavior pattern on fixing price value. The motive is to valuing the influence of investor's behavior biased on market misbalance and inefficiency through modeling behavioral structure.
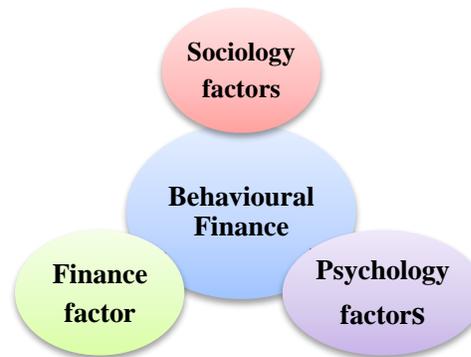
Source: Compiled by the authors

The gems and jewelry plays a significant role in Indian market based on which government has focusing jewelry sector on promotion of exports with various promotion motives such as "Brand India" the sector contributes 7% of country gross domestic products and 15% of export factor of the country one of the largest employment sector which employees more than 4 million works. The below table has been shown the data from the year 2010-2018 import of gold in India which clearly states the demand for material gold in the country.

Table – 1 Import of Gold Bars

Years	Import of Gold Bars
2010-11	8,652
2011-12	10,963
2012-13	11,335
2013-14	5,663
2014-15	5,468
2015-16	4,184
2016-17	4,219
2017-18	8,584
Source: Extracted from Gems and Jewelry Export promotion Council (GJEPC)	

II. LITERATURE REVIEW

According to Sunil Dhawan21 October 2019 on their study stated that gold is a tool of investment which has its own factors of risk and safety issues gold is an investment which should have purpose to opt, marriage is efficient factor which make gold as investment choice overall not more than 10% portfolio is considered as efficient for gold investment. Tony Daltorio June 22, 2019 have suggested various reasons behind material gold investment and strong responsiveness of material over decades, currently little reason behind the gold purchase are their reciprocal relationship between us dollars and gold price, hedging factors, and portfolio diversification, the material also considered as choice of investment over virtual cash. According to Karl Kaufman   28 February 2019 have mentioned gold acts as hedging during uncertainty in economics arise, gold was such an element which will always be the same for ages which is a unique measurement of convictism and gold does not require any involvement of third party. On the study proposed by R. Rupa September 2016 on her research explained that gold has been highly safe and profitable investment without risk and high hedging factors that the demand of gold does not vary with factors such as age of an individual or qualification or other demographic profile as its considered as investment generate good return over on time. Aghila Sasidharan September 2015 on his research paper explained the investors highly prefer investment on gold irrespective fear factor due to the considerable proportions like hedging against risk and subjected to the overall speculations.

III. RESEARCH GAP

The study has been made in prior deals entirely with traditional theories and their impact on the investing on materialistic gold with quantitative measures on the factors. The study has been made with reference of traditional pattern of investment analyzed with modern frame of behavioral finance and individual psychology behind the investment structure and grounds on which basis they make choice of including material gold on their investment framework.

IV. RESEARCH METHODOLOGY

Table – 2 Methodology Description

Research Design	Expressive, evaluative and statistic research plan
Sample Technique	Convenience Sampling
Sampling Unit	Demat gold, gold jewelry, gold coin and bars
Sample Size	130
Research Instrument	Structured printed questionnaire- five-point Likert scale measurement
Data Collection	Personal visit and E- questioner to the respondents
Statistical Techniques	Explanatory statistics, Correlation test, Regression model

V. RESEARCH OBJECTIVE

The primary objective of the study is to focus on the description of the strong influence on psychology on material gold purchase of gold in the form of jewelry, bars or coins in the middle income group, the study analyzed the relationship of gender and factors behind the decision over the material gold as investment. The study further examines the risk indicators on the material gold and the return factors influencing the same.

Objectives

1. To study the relationship between gender and their grounds influencing portfolio decision while investing in material gold and hedging against inflation.
2. To study and analyze the risk factors impacting the behavior pattern of investment on material gold.

VI. DATA ANALYSIS

Table – 3 Demographic Profile

Particular		Frequency	Percent
Gender	Male Samples	64	49.2
	Female Samples	66	50.8
	Total Samples	130	100.0
Age	28-34	40	30.77
	35-41	30	23.07
	42-48	25	19.23
	48-54	15	11.53
	Above 54	20	15.38
	Total	130	100.0
Qualification	Below Graduation	8	6.2
	Graduation	50	38.5
	Post-Graduation	68	52.3
	Others	4	3.1
	Total	130	100.0
Occupation	Student	61	46.9

	Private Concern	48	36.9
	Government	2	1.5
	Self Employed	9	6.9
	Others	10	7.7
	Total	130	100.0
Source: Primary Data Analysis			

Elucidation of Table 3: From the sample of 130 respondents 49.2% are found out to be male respondents and 50.8% are female respondent's categories. The age factor respondents 30.77% falls under the age group of 28-34 and 23.77% respondents falls between the age group 35-41 and 19.23% respondents are from the category of 42-48, and 11.53% respondents' falls under the category of 48-54 years and 15.38% falls over age group of 54 and above. The qualification of respondents taken 6.2% are falls under below graduation category, the 38.5% are falls under graduation and 52.3% respondents are falling under post-graduation category and 3.1% respondents are falls under others whereas the occupation sector 46.9% of respondents were students, 36.9% of respondents has been employed in the private sector, 1.5% respondents has been working in government sector, 6.9% respondents has been engaged in self-employment and 7.7% were falling under other category.

Test of Reliability

Table – 4 Reliability Statistical Test

R coefficient (Reliability test)	
N cases =130	N Items =130
(Alpha) α= 0.774	
Source: Primary Data	

Elucidation of Table 4: Cronbach's alpha (α) value is 0.774 assuring the reliable and consistent of the study conducted.

Pearson Correlation (r) analysis

Table - 5 r Analysis

Factors		Pearson Correlation (r)	Significant (1-tailed)	H0 status
Age	Gambler's Fallacy	-.091	.151	H01 accepted
	Fear of Regret	.142	.054	H02 accepted
	Overconfidence	.016	.428	H03 accepted
	Hedging against Inflation	.001	.496	H04 accepted
	Loss Aviation	.031	.364	H05 accepted
Source- Primary Data Analysis				

Elucidation of Table 5

- **H_01 -** there is no noteworthy between age and impact of risk factors gambler's fallacy involved in investment psychology. The correlation model divulges that the r (Pearson's coefficient) value which is correspondence between age and gambler's fallacy is -.091. The value of significance 0.05 is less than .151hence the null hypothesis is accepted.

- **H_02 -** there is no noteworthy between age and impact of risk factor fear of regret involved in investment psychology. The correlation model divulges that the r (Pearson's coefficient) value which is

correspondence between ages and is fear of regret is .142. The value of significance 0.05 is lesser than 0.54 hence the null hypothesis is accepted.

- **$H_0$3 -** there is no noteworthy between age and impact of risk factor overconfidence involved in investment psychology. The correlation model divulges that the r (Pearson's coefficient) value which is correspondence between age and overconfidence is .016. The value of significance 0.05 is lesser than .428 hence the null hypothesis is accepted.

- **$H_0$4 -** there is no noteworthy between age and impact of risk hedging against inflation involved in investment psychology. The correlation model divulges that the r (Pearson's coefficient) value which is correspondence between age and hedging against inflation is .031. The value of significance 0.05 is lesser than .496 hence the null hypothesis is accepted.

- **$H_0$5 -** there is no noteworthy between age and impact of risk factor loss aviation involved in investment psychology. The correlation model divulges that the r (Pearson's coefficient) value which is correspondence between age and loss aviation is .001. The value of significance 0.05 is lesser than .364 null hence the hypothesis is accepted.

Regression Analysis

Regression test Linear regressions were run to determine the presence of any relationship between independent and dependent variable, Influencing factor consisting of objective which is transformed sum of 6 items which covers Children's Education Retirement, Home Purchase, Children's Marriage, Health Care, Security against pledge.

$H_0$6- there is no noteworthy between gender and Grounds on Saving objective-Material gold

$H_0$7- there is no noteworthy between gender and Grounds on Saving objective- Hedging against Inflation

Table - 6 Regression

Model	R value	R Sq.	Adj R Sq.	Std Error of the Estimate	H0 Accepted/Rejected
1	.208a	.043*	.036	3.84908	H06 Rejected
2	.313b	.098	.089	1.220	H07 Accepted
a. Predictors: (Constant), 1.Gender					
** 0.01 sig level; * 0.05 sig level					
Source- Primary Data					

Elucidation of Table 6

Table 6 shows regression test of predicted variable Grounds on saving objective-Material gold Independent variable. the R square .043 which indicates that 43% of the variation in grounds on saving objective- Material gold which is significant at 0.01 levels. The regression analysis also reveals Dependent variable Grounds on Saving objective-hedging against Inflation Independent variable. the R square .098 which indicates that 98% of the variation in grounds on saving objective- Hedging against Inflation which is not significant.

Table - 7 ANOVA[a]

	Test	Sum of Square	Differences	Mean Sq	F statistic	Sig value
1	Regression	85.900	1	85.900	5.798	.001b
	Residual	1896.377	128	14.815		
	Total	1982.277	129			
2	Regression	15.834	1	15.834	10.642	.002b
	Residual	145.806	98	1.488		

	Total	161.640	99			

a. Dependent Variable: Grounds on Saving objective-Material gold

** 0.01 sig level; * 0.05 sig level

b. Predictors: (Constant), 1.   Gender

Source: Primary Data

Elucidation of Table 7

The above table shows that the independent variable Gender statistically predicts the dependent variable which is Grounds on Saving objective-Material gold f= 5.798, P <05 and also dependent variable Grounds on Saving objective- Hedging against Inflation f=10.642, P<05 . Since, the significance of the value is .001 which is less than .005 it implies the data of regression structure is a good fit for study.

Table - 8 Coefficients

Coefficients Model		Unstandardized Coefficients		Standardized Coefficients	t-test	Significant
		B	Std. E(standard error)	β-Beta		
1	(Continual)	16.718	1.073		15.586	.000**
	1.Gender	1.626	.675	.208	2.408	.001*
2	(Continual)	1.849	.391		4.734	.000**
		.796	.244	.313	3.262	.002*

a. Dependent Variable: Grounds on Saving objective-Material gold

** 0.01 significant level; * 0.05 significant level

Source: Primary Data Analysis

The above table is equated as

Gender Y=16.718+ 2.408x1 (Grounds on Saving objective-Material gold)

Gender Y=1.849+.313 x1 (Hedging against Inflation)

Elucidation of Table 8

The coefficient table provides necessary information which predicted that gender have the effect on Grounds on saving objective-Material gold with standardized coefficient (beta 2.408) and also the effect on hedging against inflation with standardized coefficient (beta .313), since significant value .001 is lesser than 0.05 the null hypothesis (there no noteworthy relationship between Gender and Grounds on Saving objective-Material gold) is rejected.

VII. FINDINGS FROM THE STUDY

Demographic Profile: The great number of respondents is female within the age group of 28-32 have completed post-graduation are highly influenced with pattern of investment on material gold.

Correlation Analysis: The hypothesis of the study reveals there is no noteworthy relationship existing between variable age and dependent variable fear of risk on investment. The reveals the risk analyzing factor for investing on material gold special reference on human behavioral pattern the fear of risk factors over physical precious yellow metal has no references with the age or generation of investors that irrespective of age the psychology of fear of risk over investment were the same as portfolio material gold .

Regression Analysis: The regression test further rejected the null hypothesis, that the relationship between gender and reason behind saving objective on material gold were highly influenced that the gender play significant role on grounds of investment over precious metal. In model 1 Grounds on saving objective-Material gold reveals 5.7% variance in gender of investors on physical gold and the in model 2 Grounds on saving objective- hedging against inflation reveals 10.642% variance in gender of investors.

VIII. CONCLUSION

The study reveals various factors which has been working as a threat of investment in jewelry, coins or bars on material gold, the traditional method of investment having same kind of fear factor implanted in human behavior that the age does not play a significant role in the factors of risk consideration, that indicates the investors need solid assurance to overcome the risk and more pattern model should be supported for the same. The study also explains how the gender factor reflects the grounds on which the investment has been made on the material gold, that the male and female have various influencing factors to choose material gold as a part of their investment.

IX. SUGGESTIONS

The behavioral fiancé is one components which deals with biased nature of investment, the thinking behind risk analysis gambler's fallacy, fear of regret, overconfidence, hedging against inflation, study increase in price, loss aviation was contently on individual thinking pattern which is cannot be generalized based on traditional theories, the influence of modern theories and very few studies providing the gap between basic awareness of this pattern of investment, and the reason of investment changing between male and female states that both have different parameters based on their psychological grounds on investment which needed the exclusive ideological pattern.

X. SCOPE FOR FUTURE STUDY

The study talks about the investment on material gold inclusive of jewelry, coins and bars, the further study can be made up on paper gold. Comparative study can be conducted on traditional gold investment vs. modern gold investment. The research paper can be framed with exclusive study of government bonds on gold.

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