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Investment Objectives of Select Agricultural and Non-Agricultural Commodities: A Study of Derivative Investors in Rayalaseema Region of Andhra Pradesh

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ABSTRACT

The paper discusses financial derivatives, which are financial instruments whose value derives from underlying assets such as commodities, securities, currencies, or indices. The objective of the paper is to understand the investment objectives and satisfactory levels of derivative investors in select agricultural and non-agricultural commodities. The study considers commodities contracts based on the volume of trade in the Rayalaseema region of Andhra Pradesh, India. Turmeric and cotton from agricultural commodities and gold and silver from non-agricultural commodities are chosen based on their awareness level and volume of trade. The paper presents the responses of sample investors in terms of highly satisfied, neutral, dissatisfied, and highly dissatisfied. The study concludes that investment objectives of derivative investors in select commodities differ based on gender.

INTRODUCTION

Commodities has classified into agricultural and non-agricultural commodities based on the nature of the commodities in terms of soft and hard. Soft nature commodities are called agricultural and hard nature commodities are called non-agricultural commodities. Soft commodities are typically grown Turmeric, cotton, corn, wheat, soya bean, sugar, groundnuts and sunflowers are some of the examples of soft commodities. Many soft commodities are subject to spoilage, which may be subjected to huge volatility in the market and on the other hand side through those are hard in nature will have fluctuations in the market due to demand and supply conditions in the market.

Gold, silver, oil and aluminum are some of the best examples of non-agricultural commodities. In many cases, initial products are refined into further commodities like oil. It will be refined into gasoline. 'Hard' commodities are easier to handle than 'soft' commodities because they are more integrated into the industrial process.

METHODOLOGY OF THE STUDY

The present research article is based on both primary and secondary data. The primary data is collected through a structured questionnaire. The questionnaire is designed to elicit the information about the socio-economic profile of the derivative investors, their objectives and behavior about the commodity derivative market. The questionnaire is designed keeping in view the objectives of the present research work and it is pre-tested by means of a pilot study

SAMPLE DESIGN

Theoretical Population: Theoretical population includes agricultural and non-agricultural derivative investors.

Study population: Agricultural and non-agricultural derivative investors of Anantapur, Kurnool, Kadapa and Chittoor districts of Andhra Pradesh.

Sampling Frame: The registered agri-cultural and non-agricultural derivatives investors at the derivative brokerage firms situated in Anantapur, Kurnool, Kadapa and Chittoor districts were taken as sample frame for the research.

Sample

It is not feasible for the researcher to study the whole population due to time and resource constraints. Hence, by using a convenience sample, 600 samples were selected by covering 150 respondents from each district. The detailed sampling plan has been presented in the following table.

Table 1: Sample Size

S. No.	District Name	Sample size
1	Ananthapuramu	150
2	Chittoor	150
3	Kurnool	150
4	Y.S.R.Kadapa	150
Total		**600**

The following criteria have been used for choosing select commodities

1) The commodities contracts based on the volume of trade in Rayalaseema region of A.P has been considered.
2) Based on the awareness level and volume of trade (highest in study area) Turmeric and Cotton from agricultural commodities and Gold & Silver from non-agricultural commodities have been chosen.

Objective of the Study

To analyse the investment objectives of derivative investors in select agriculture and non-agriculture commodity derivatives.

Objectives of Investment in Agricultural Commodities

The specific objectives of investment on agricultural commodities may be for maximizing return or minimizing the risk. Apart from these objectives, individual investors may have general objectives like maintaining liquidity, hedging against inflation, increase safety, saving tax, education of children and other future purpose of the investors. Here, the researcher made an attempt to know the investment objectives of investing in agricultural commodities. The sample respondents have been offered some of the objectives like hedging, Speculation, leverage, liquidity and Price Discovery. The responses of the sample respondents are tabulated and presented in table 1.

Table 1 Objectives of Investment in Agricultural commodities

Objectives of Investment on Agricultural Commodities	No. of respondents	Percent
Hedging- price risk management by risk mitigation	107	17.8
Speculation-take advantage of favorable price movements	146	24.3
Leverage-pay low margin to enjoy large exposure	62	10.3
Liquidity-ease of entry and exist of market	61	10.2
Price discovery-for taking farming and business decisions	29	4.8
Not applicable	195	32.5
Total	600	100.0

Source: Field Study

The above table shows that the 24.3 percent of the sample respondents aimed for Speculation-take advantage of favorable price movements, followed by 17.8 per cent of respondents invested in derivative market with an objective of Hedging-price risk management by risk mitigation, 10.3 percent and 10.2 percent of sample respondents with an objective of Leverage-pay low margin to enjoy large exposure and Liquidity-ease of entry and exist of market respectively. And only 4.8 percent of respondents are invested with the objective of Price discovery-for taking farming and business decisions.

Objectives of Investment in Non-Agricultural Commodities

The specific objectives of investment in non-agricultural commodities may be for maximizing return or minimizing the risk. Apart from these objectives individual investors may have general objectives like maintaining liquidity, hedging against inflation, increase safety, saving tax, education of children and other future purpose of the investors. Here, the researcher made an attempt to know the investment objectives of investing in non-agricultural commodities. The sample respondents have been offered some of the objectives like hedging, Speculation, leverage, liquidity and Price Discovery. The responses of the sample respondents are tabulated and presented in table 2

Table 2: Objectives of Investment on Non-agricultural commodities

Objectives of Investment on Non-Agricultural commodities	No. of respondents	Percent
Hedging- price risk management by risk mitigation	114	19.0
Speculation-take advantage of favorable price movements	150	25.0
Leverage-pay low margin to enjoy large exposure	68	11.3
Liquidity-ease of entry and exist of market	65	10.8
Price discovery-for taking farming and business decisions	47	7.8
Not applicable	156	26.0
Total	600	100.0

Source: Field Study

It may be noted from the table 2 that the majority of the respondents i.e. 25.0 per cent aimed at Speculation-take advantage of favorable price movements followed by 19.0 per cent of respondents invested in derivative market with an objective of Hedging- price risk management by risk mitigation, while 11.3 and 10.8 with an objective of Leverage-pay low margin to enjoy large exposure and Liquidity-ease of entry and exist of market respectively. And only 7.8 per cent respondents are invested with the objective of Price discovery-for taking farming and business decisions

Satisfaction Levels of Investors towards Agricultural Commodities

To ascertain as to whether the agricultural commodity derivative investors satisfied or dissatisfied while making investments on agricultural commodities, a question is placed before them and collected their responses in terms of highly satisfied, neutral, dissatisfied and highly dissatisfied. The responses of sample investors is tabulated and presented in table 3.

Table- 3 Satisfaction levels of investors towards agricultural commodities

Satisfaction levels agricultural commodities	No. of respondents	Percent
Highly satisfied	107	17.8
Satisfied	109	18.2
Neutral	61	10.2
Dissatisfied	96	16.0
Highly Dissatisfied	32	5.3
Not applicable	195	32.5
Total	600	100.0

Source: Field Study

The above table depicts the satisfaction levels of investors towards agricultural commodities, the result as shown in table, 23.2 percent of respondents are highly satisfied and followed by 21.7 percent respondents are satisfied, 16.0 percent respondents are dissatisfied, and where as 10.2 percent respondents are neutral and remaining 5.3 percent highly dissatisfied on agricultural commodity trading.

Satisfaction Levels of Investors towards Non-Agricultural Commodities

To ascertain as to whether the non-agricultural commodity derivative investors satisfied or dissatisfied while making investments on non- agricultural commodities, a question is placed before them and collected their responses in terms of highly, satisfied, neutral, dissatisfied and highly dissatisfied. The responses of sample investors is tabulated and presented in table 4.

Table 4: Satisfaction Levels of Investors towards Non-Agricultural Commodities

Satisfaction levels Non-Agricultural Commodities	No. of respondents	Percent
Highly satisfied	41	6.8
Satisfied	214	35.7
Neutral	43	7.2
Dissatisfied	107	17.8
Highly Dissatisfied	39	6.5
Not applicable	156	26.0
Total	600	100.0

Source: Field Study

The satisfaction levels of investors towards non-agricultural commodities are shown in the above table. The result as shown in table, 35.7 percent of sample respondents satisfied and followed by 17.8 percent respondents are dissatisfied, while 7.2 percent are neutral, 6.8 percent respondents highly satisfied and remaining 6.5 percent sample respondents highly dissatisfied with the select non-agricultural commodity trading

Hypotheses Test

Further, hypotheses were formulated to test the relationship between objectives of investment and socio-economic profile of the derivative investors. The details are presented below. This information is useful for derivative practioners for formulating strategies towards derivative investment.

EDUCATIONAL QUALIFICATIONS

Relationship between Educational Qualifications and Objectives of Investment in Agricultural Commodities

Educational qualifications	Objectives of Investment in agricultural commodities						Total
	Hedging-price risk management by risk mitigation	Speculation-take advantage of favorable price movements	Leverage-pay low margin to enjoy large exposure	Liquidity-ease of entry and exist of market	Price discovery-for taking farming and business decisions	Not applicable	
Professional	16	18	5	11	3	28	81
Post Graduate	12	28	16	11	7	54	128
Graduate	62	78	32	28	14	94	308
Secondary Education	11	16	9	8	3	14	61
Illiterate	6	6	0	3	2	5	22
Total	107	146	62	61	29	195	600

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	23.544[a]	20	.263
Likelihood Ratio	26.447	20	.152
Linear-by-Linear Association	5.252	1	.022
N of Valid Cases	600		

a. 6 cells (20.0%) have expected count less than 5. The minimum expected count is 1.06.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.198	.263
	Cramer's V	.099	.263
	Contingency Coefficient	.194	.263
N of Valid Cases		600	

Inference: A chi-square test for independence indicated no significant association between educational qualification and objectives of investment in agricultural commodities. Hence, null hypothesis is accepted and alternative hypothesis is rejected.

Ho- Accepted and Ha- Rejected

Relationship between Educational Qualifications and Objectives of Investment in Non-Agricultural Commodities

Educational qualifications	Objectives of Investment in Non-agricultural commodities						Total
	Hedging-price risk management by risk mitigation	Speculation-take advantage of favorable price movements	Leverage-pay low margin to enjoy large exposure	Liquidity-ease of entry and exist of market	Price discovery-for taking farming and business decisions	Not applicable	
Professional	18	19	4	13	3	24	81
Post Graduate	28	38	8	11	13	30	128
Graduate	52	77	49	28	24	78	308
Secondary Education	14	10	5	11	4	17	61
Illiterate	2	6	2	2	3	7	22
Total	114	150	68	65	47	156	600

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	29.922[a]	20	.071
Likelihood Ratio	30.626	20	.060
Linear-by-Linear Association	.890	1	.346
N of Valid Cases	600		

a. 5 cells (16.7%) have expected count less than 5. The minimum expected count is 1.72.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.223	.071
	Cramer's V	.112	.071
	Contingency Coefficient	.218	.071
N of Valid Cases		600	

Inference: A chi-square test for independence indicated no significant association between educational qualification and objectives of investment in non-agricultural commodities. Hence, null hypothesis is accepted and alternative hypothesis is rejected.

Ho- Accepted and Ha- Rejected

Relationship between Occupation and Objectives of Investment in Agricultural Commodities

Crosstab

Occupation	Objectives of Investment in agricultural commodities						Total
	Hedging-price risk management by risk mitigation	Speculation-take advantage of favorable price movements	Leverage-pay low margin to enjoy large exposure	Liquidity-ease of entry and exist of market	Price discovery-for taking farming and business decisions	Not applicable	
Employee	34	26	12	13	6	34	125
Businessman	47	86	34	30	10	105	312
Professional	11	14	6	7	5	19	62
Retired	14	19	10	11	8	36	98
Others	1	1	0	0	0	1	3
Total	107	146	62	61	29	195	600

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.078[a]	20	.453
Likelihood Ratio	19.720	20	.476
Linear-by-Linear Association	4.495	1	.034
N of Valid Cases	600		

a. 8 cells (26.7%) have expected count less than 5. The minimum expected count is .15.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.183	.453
	Cramer's V	.091	.453
	Contingency Coefficient	.180	.453
N of Valid Cases		600	

Inference: A chi-square test for independence indicated no significant association between occupation and objectives of investment in agricultural commodities. Hence, null hypothesis is accepted and alternative hypothesis is rejected.

Ho- Accepted and Ha- Rejected

Relationship between Occupation and Objectives of Investment in Non-Agricultural Commodities

Occupation	Objectives of Investment in Non-agricultural commodities						Total
	Hedging-price risk management by risk mitigation	Speculation-take advantage of favorable price movements	Leverage-pay low margin to enjoy large exposure	Liquidity-ease of entry and exist of market	Price discovery-for taking farming and business decisions	Not applicable	
Employee	29	25	17	14	8	32	125
Businessman	50	83	31	37	24	87	312
Professional	13	15	8	6	3	17	62
Retired	21	26	12	8	12	19	98
Others	1	1	0	0	0	1	3
Total	114	150	68	65	47	156	600

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.053[a]	20	.828
Likelihood Ratio	14.914	20	.781
Linear-by-Linear Association	.697	1	.404
N of Valid Cases	600		

a. 7 cells (23.3%) have expected count less than 5. The minimum expected count is .24.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.153	.828
	Cramer's V	.077	.828
	Contingency Coefficient	.151	.828
N of Valid Cases		600	

Inference: A Chi-square test for independence indicated no significant association between occupation and objectives of investment in non-agricultural commodities. Hence, null hypothesis is accepted and alternative hypothesis is rejected.

Ho- Accepted and Ha- Rejected

ANNUAL INCOME

Relationship between Annual Income and Objectives of Investment in Agricultural Commodities

Annual income	Objectives of Investment in agricultural commodities						Total
	Hedging-price risk management by risk mitigation	Speculation-take advantage of favorable price movements	Leverage-pay low margin to enjoy large exposure	Liquidity-ease of entry and exist of market	Price discovery-for taking farming and business decisions	Not applicable	
Less than 300000	7	3	4	4	0	12	30
3,00,001 - 5, 00,000	16	19	7	10	9	19	80
5 ,00,001 - 10, 00, 000	39	40	18	22	5	54	178
10, 00,001-15 00,000	28	53	22	16	11	76	206
Above 15 00,001	17	31	11	9	4	34	106
Total	107	146	62	61	29	195	600

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	26.194[a]	20	.160
Likelihood Ratio	26.869	20	.139
Linear-by-Linear Association	.243	1	.622
N of Valid Cases	600		

a. 4 cells (13.3%) have expected count less than 5. The minimum expected count is 1.45.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.209	.160
	Cramer's V	.104	.160
	Contingency Coefficient	.205	.160
N of Valid Cases		600	

Inference: A chi-square test for independence indicated no significant association between annual income and objectives of investment in agricultural commodities. Hence, null hypothesis is accepted and alternative hypothesis is rejected.

Ho- Accepted and Ha- Rejected

Relationship between Annual Income and Objectives of Investment in Non-Agricultural Commodities

Annual income	Objectives of Investment in Non-agricultural commodities						Total
	Hedging-price risk management by risk mitigation	Speculation-take advantage of favorable price movements	Leverage-pay low margin to enjoy large exposure	Liquidity-ease of entry and exist of market	Price discovery-for taking farming and business decisions	Not applicable	
Less than 300000	4	11	6	1	3	5	30
3,00,001 - 5, 00,000	12	20	12	11	7	18	80
5 ,00,001 - 10, 00, 000	39	41	17	20	9	52	178
10, 00,001-15 00,000	38	47	24	23	22	52	206
Above 15 00,001	21	31	9	10	6	29	106
Total	114	150	68	65	47	156	600

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.743[a]	20	.539
Likelihood Ratio	18.997	20	.522
Linear-by-Linear Association	.097	1	.756
N of Valid Cases	600		

a. 3 cells (10.0%) have expected count less than 5. The minimum expected count is 2.35.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.177	.539
	Cramer's V	.088	.539
	Contingency Coefficient	.174	.539
N of Valid Cases		600	

Inference: A chi-square test for independence indicated no significant association between annual income and objectives of investment in non-agricultural commodities. Hence, null hypothesis is accepted and alternative hypothesis is rejected.

Ho- Accepted and Ha- Rejected

CONCLUSIONS

From the above hypothesis it can be concluded that investors' objectives in investing derivative markets differ with gender. Hence, derivative parties need to consider gender in their success while framing their objectives.

The conclusion of the paper is that the investment objectives of derivative investors in select commodities differ based on gender. Therefore, it is important for derivative parties to consider gender while framing their investment objectives to ensure success.

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