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# THE INCOME EFFECT OF IRRATIONAL BEHAVIOUR: A PSYCHO-ECONOMIC ANALYSIS

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## ABSTRACT

*The standard economic theorization is based on the neo-classical rationality postulate. But irrational activities and superstitious practices impact a wide range of decisions and choices in our day today life. Dissection of irrational behaviour of an individual is not so simple to comprehend but not impossible too. The emergence of the Behavioural Economics paradigm has recognized the psycho-economic importance and the socio-cultural effects of irrational beliefs and superstitions-driven activities on the lives of the common people. This paper highlights how the rationality assumption has become irrelevant in the light of irrationality-based superstitious practices and preference heterogeneity. Choice failure is caused by such realistic irrationalities further leading to capability deprivations. In the present study 100 participants have been sampled from both rural and urban vicinity of Bargarh district of Odisha to examine the linkages between monthly income and irrational behaviour represented through households' spending on various superstitious activities and practices. Through the use of descriptive and inferential statistics it has been proved that irrational behavioural patterns have an income effect and income does have an effect on the way economic agents behave in the real world situations.*

**Key Words:** Rationality Postulate, Irrational Behaviour, Income Effect, Capability Deprivations

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## 1. INTRODUCTION

The standard economic theorizing is all about its foundational base on the assumption of rationality. As per the rationality assumption, a person is called rational if he maximizes utility by choosing the best out of all available alternatives. In other words, it is nothing but a decision-making process that involves the maximization of satisfaction rather than anything else. In economic terminology, a rational consumer always wants to maximize his/her utility. Rationality in economics is also based on some facts, logic or reasoning. Almost in every case, we take it as an assumption or assume that a person must behave rationally than only the theoretical formulation is valid. "Behaviour can be rational or irrational so can decisions, preference, beliefs, expectations, decision procedures, and knowledge." (Peter J. Hammond, 1977). If we sharply give attention to any economic outcome, we will ascertain that they are ultimately determined by human decisions or behaviour. Therefore, economists have always postulated rationality assumption as a starting point of all economic theorization.

The Neo-classical standard economics has been challenged by a new strand of economic thinking in terms of what has become popular as the behavioural economics. It is the behavioural economic paradigm which has thoroughly rejected the rationality assumption on which the entire edifice of the neo-classical economics is based. Behavioural economics is that branch of economics which deals with people and their behavioural patterns and choices.

Superstitious practices are one of the most prevalent connotations that make people irrational while making a decision. Due to this irrationality, our ability to think and the capability to work get paralyzed. If we search the definition of superstition, we can find different views given by different people across different streams. However, superstition is that thing in the case of which we blindly believe without any justifications for the sake of good luck or prosperity. We are in the 21st century now which is being driven by the free flow of information and knowledge and our ways of living have been dominated by the convergence of communication technologies. Despite such phenomenal developments in the last two decades our dependence on these blind beliefs, dogmas and irrationalities have not at all declined rather are being practiced more and more to earn a quick buck. Highly educated and elite class people are also not exception to it. In everyday life, we find highly superstitious people even though the advancement and progress in the field of science and technology is very rapid and all-encompassing. It has not been able to free modern man from the clutches and chains of superstitions. One question that very frequently comes to our mind is that do superstitions have anything to do with the economic behaviour of the common man? The answer lies in the fact that superstitious practices and dogmatic thinking are responsible for irrationalities of various kinds and such irrationalities are responsible for improper and wrong decision making by the people. Ultimately economics is a science of choice and the very science of choice making is getting influenced hugely by the way we are expressing ourselves through our beliefs patterns, thinking and impractical manners of living.

Our beliefs and behaviour play a crucial role in the way we make a decision. Though the question is about belief, people follow theirs with an intention to get good luck or to overcome bad luck, uncertainty happening in day to day life. Most of the people involved in superstitious practices are those who want to achieve quick benefits, most of the time more than what they deserve. Superstitions in the minds of people are unavoidable and are seen all over the world. Superstitious practices are neither confined to any age groups nor to the people whether

educated or not. Economic class is also not expected to be an indicator of whether superstitious practices are followed or not. Modern research reveals that young people belonging to contemporary ultra-modern generation are turning more and more towards such irrationalities to earn a quick buck and to climb the economic ladders within a very short time span with much less efforts. The effects of superstitions have been felt seriously in the markets of various products and services. We find many superstitious practices being followed by people investing money in the stock market. Traders prefer to do business by selecting their so-called lucky numbers and/or lucky days for the transaction. This is an example of irrational behaviour which prevails widely in every society. We know the significance of the market and the market mechanism in economics. If this type of irrationalities affects the market place then the economic development has to be seen in terms of a new canvas of progress and persistence. At least these types of irrational behaviours come from superstitions that hamper not only the economic aspects but also the all-round developmental dimensions of the homosapiens.

## 2. OBJECTIVES OF THE STUDY

This study is based on the following main objectives:

1. To analyze the theoretical significance of the assumption of rationality in the preference pattern of the people.
2. To examine whether irrational behaviour has any income effects on the people.

## 3. MATERIALS AND METHOD

### 3.1. Methodology

A. Sample: In order to meet the objectives of the study and to check the validity of the hypothesis under consideration the reliance has been solely on the collection of primary data from the study area. So this study is basically built on primary sources of data. For empirical verification of the chosen topic, 100 respondents have been selected as samples by adopting the simple random sampling and the stratified random sampling methods. Primary data have been collected from 50 households of Nagenpali village of Bargarh district, Odisha and rest 50 respondents are from the urban area of the Bargarh town proper.

### 3.2. Hypotheses of the Study

H<sub>0</sub>: Superstitious believes and practices do not create irrationalities and inconsistencies in choice making.

H<sub>a</sub>: Superstitious believes and practices create irrationalities and inconsistencies in choice making.

H<sub>0</sub>: Income of the family is positively related to irrational attitude.

H<sub>a</sub>: Income of the family is negatively related to irrational attitude.

**C. Methods and Tools used:** Data have been collected by adopting the technique of the direct interview method. This study is a descriptive analytic one. And also the primary data that we have collected through the direct questionnaire method have been done by directly interviewing the respondents in the concerned study area. Collected data have been organized in terms of appropriate tables and figures. Besides the use of descriptive statistics, we have used the multiple linear regression model to draw the inferences as regards the objectives and hypotheses taken.

## 3. RESULTS AND DISCUSSIONS

Our first objective is to describe the importance of the rationality assumption so far as the standard economic theorizing is concerned. The rationality assumption constitutes the building

block of economic theories and philosophy right from the beginning of the journey of the economic science. Equilibrium conditions and optimality criterions are based on the rationality postulates. But there is no denying the fact that the real world system and processes are being conditioned by irrationalities of various degrees and kinds. The journey from the classical economic paradigm up to the new liberal philosophy of the modern world has been dominated by the necessities and the importance of the so called 'economic man' having oriented towards rational attitude and action. Even economic science deals with behaviouristic models which are based on the rationality postulates and therefore the preference pattern of economic agents is associated with such a basic assumption.

It is known to all concerned that irrationalities of various kinds and degrees are being created and cared by superstitious outlooks, practices, dogmas and people beliefs in unfounded supernatural entities. The preference pattern of individuals with such irrationalities is not only heterogeneous but is also illogical in nature. The preference pattern of individuals with such irrationalities is not only heterogeneous but is also illogical in nature. The preference heterogeneity being conditioned by socio cultural irrationalities are responsible for the capability failure as suggested by the Nobel Laureate Prof. Amartya Sen. Choice making in the presence of irrational outlook and actions not only leads to sub-optimality but is also responsible for the capability deprivations of the masses.

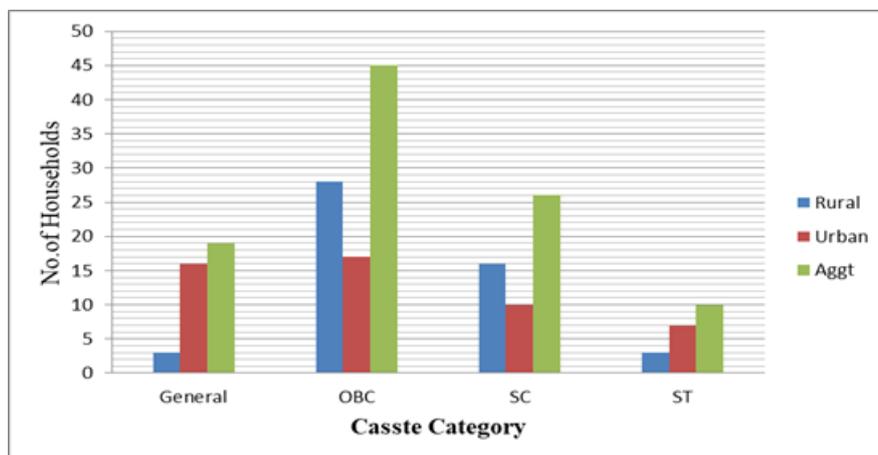
The entire edifice of the standard neo-classical economic paradigm has been broken down by the wide acceptance of such irrational approaches and attitude even by the people with proper education, higher income and prestigious positions in the contemporary socio cultural hierarchy. The following tables with figures are the indicators of the degrees and kinds of irrationalities being seen in the study region.

<b>Table No.1</b> Sex composition of the sample in terms of area			
Sex	Rural Area	Urban Area	Total
Male	15	25	40
Female	35	25	60
Source: Compiled primary data			

The above table shows the sex composition of the sample in the rural and urban area under study. The total respondents are 100 being drawn from both rural and urban area of the Bargarh district of the state of Odisha. The female respondents outnumber the male counterpart in our sample profile because the general belief pattern in this part of the world is that females are much more superstitious than the opposite sex.

<b>Table No.2</b> Number of Respondents in terms of Caste and locality:			
Caste	Rural Household	Urban Household	Aggregate
GENERAL	3	16	19
OBC	28	17	45
SC	16	10	26
ST	3	7	10
Source: Compiled primary data			

The above table represents the participation of respondents from different caste categories both in rural as well as in an urban area. The figure clearly shows that the OBC (other backward castes) respondents are more in number than others which is 45 in aggregate for both urban and rural. The urban participation of OBC people is nearly the same with General category people. But the participation of Scheduled Tribe (ST) people both in the rural and urban areas is smaller than the other categories. The basic sample profile has also been presented graphically to make it more lucid.

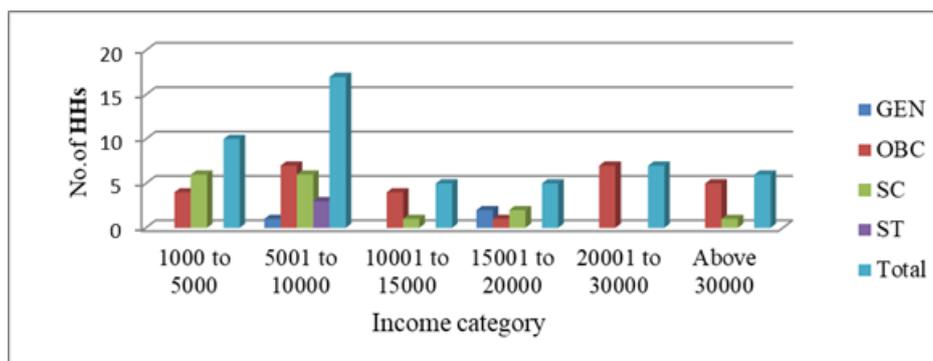


**Chart No.1** Caste Category

In order to understand the income effect of irrational behaviour on the part of the people, it is necessary to keep track of the sample profile in terms of income level. The above figures and bar chart represent the state of different income groups belonging to the rural area households. Most of the households irrespective of castes i.e. 17 in numbers means 34% belong to the low income category (5001-10000). In comparison to other groups as shown in the chart 20% of the total sample households belong to the lowest income class category ( income less than 5000). People in this category have very low income as they are dependent on daily wage activities, washing clothes, cows and sheeps herding, driving etc. Only 12% of total sampled households have a higher income of level of 30000 per month. Thus, the data sampled represents low income category people belonging to the rural area under the study.

<b>Table No .3</b> Monthly Incomes of the Rural Households in terms of category					
Income Class	Number of Households				Total HHs
	GEN	OBC	SC	ST	
1000-5000	0	4	6	0	10
5001-10000	1	7	6	3	17
10001-15000	0	4	1	0	5
15000-20000	2	1	2	0	5
20000-30000	0	7	0	0	7
Above 30000	0	5	1	0	6

Source: Compiled primary data



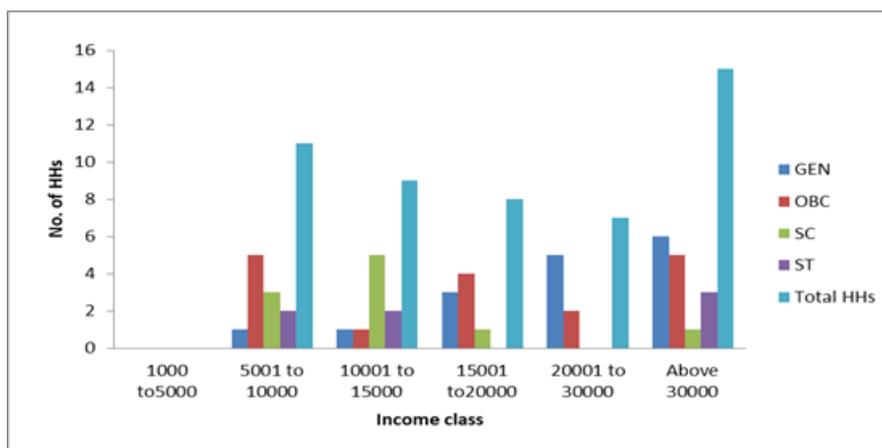
**Chart No.2** Monthly income of the Rural Households in terms of Category

The above chart represents the monthly income of the sampled urban households. There are no households in the lowest income category of 1000 to 5000 meaning thereby the lowest income of the rural people is as good as the next to lowest income class in urban areas due to the relatively high cost of living in urban centres. So from the above figure, it is clear that people who have been interviewed during the study have income more than 5000 per month. It is also found that 15HHs or 30% of the total urban households have higher income level i.e above 30,000 which shows that members of this group are employed in the government jobs and businesses. This difference in income level in the sampled population has been deliberately chosen as convenient samples just to fit to the purpose of exploring the income effect of irrational behavior across rural and urban areas.

To understand preference heterogeneity and choice inconsistencies due to irrationalities of various kinds, we have picked some of the superstitions-based variables such as believing in the importance of brahmins/pujakas/Witchcraft; believe in fasting for family welfare, non-vegetarian foods as an obstacle to salvation, salvation through offering to pujakas/animal sacrifice. Efforts have been made to understand how irrational rural and urban people are considering their choices regarding the above superstitions-based variables. These are the variables which have been used to explore how irrational behaviour influences individuals and households across different settings. Since superstitions-based beliefs and activities are subjective in nature, data have been collected by classifying the samples population into four different categories i.e Very strongly Believed (VSB), Strongly Believed (SB), Just Believed (JB), Never Believed (NB). Since the objective is to ascertain the relationship between superstitions-based irrationalities and their impact on income of the households, effort has been made to establish the relationship between these variables, expressed in terms of the above four categories and the income status of the sampled households.

Income class	Caste category				Total HHs
	GEN	OBC	SC	ST	
1000-5000	0	0	0	0	0
5001-10000	1	5	3	2	11
10001-15000	1	1	5	2	9
15001-20000	3	4	1	0	8
20001-30000	5	2	0	0	7
Above 30000	6	5	1	3	15

Source: Compiled primary data



**Chart No.3** Monthly Income of the Urban Households in terms Of Category

The next table houses the relationship of the above decided variables with different income groups derived from the sampled families of the study area. This table illustrates that income level of urban and rural households, caste category and preference pattern. Income level is divided into three categories like low income (LI), middle income (MI) and high income (HI) respectively. Low income type ranges from Rs.1000 to Rs.10,000 and middle income from Rs.10001 to Rs.20,000 and high income type ranges from Rs.20,000 and above. It is derived from the above table that a total of 34% households very strongly believe in such superstitious practices irrespective of castes and income groups

	GENERAL			OBC			SC			ST		
	LI	MI	HI	LI	MI	HI	LI	MI	HI	LI	MI	HI
VSB	1	2	5	10	0	5	2	4	1	3	1	0
SB	1	0	1	1	2	3	0	2	0	2	0	0
JB	0	1	2	1	1	4	3	3	1	0	0	0
NB			1	2	3	5	6	1	0	0	1	3
NW	0	2	2	2	3	3	2	0	0	1	0	0

Source: Compiled primary data

It implies that majority of the sampled households from both rural and urban centres are strong believers of such superstitious practices irrespective of whether they belong to higher castes or backward castes, high income groups or having poor economic status. Except the 22% non-believers, the rest of the households are superstitious in nature. A strict insight into the disaggregated data reveals that households belonging to the OBC category are much more superstitious than the other categories. Further, households with lower income are more superstitious than the households with middle and higher income level. What can be inferred from this is that backward and low income category people are more superstitious, have irrationalities of various degrees and kinds and therefore make wrong choices. Thus, irrationalities due to superstition-based choices are responsible to a larger extend why households are remaining backward and poor. It means backwardness and poor economic status

creates conditions for superstition- laden choices and thereby preference heterogeneity. Hence, it works from both the sides meaning thereby superstitions-based irrationalities creates conditions for preference heterogeneity, poverty and backwardness which further leads to irrationalities of various kinds. To be specific, the Null Hypothesis is rejected and the alternative hypothesis is accepted. So the bottom line is that superstitious believes and practices create irrationalities and inconsistencies in choice making. Inconsistencies in choice making are further responsible for capability deprivations in the words of Prof. Amartya Sen.

Seeing the results from another angle, the figures as seen from the table reveals that lower and middle income group households are involved more in such irrational activities as compared to the households belonging to the higher income group. That means irrational attitude is seen more in case of lower income groups and backward category families than in case of people belonging to the higher income groups. Thus, the second null hypothesis that developed economic standard is negatively related with irrational attitude stands accepted. Meaning thereby lower income group households are associated with more irrationalities and superstitious behavior than the same of the higher income group families. Hence, the second null hypothesis is accepted and irrationalities in true sense have an income effect.

To make the propositions more explicit, efforts have been made here to relate and to examine the relationship between income of the households and the monthly spending of such families on various religious and superstitious practices and activities ( representing irrational attitude of people). A Multiple Regression Model has been used to explore whether there is any significant relationship monthly income have with the independent variables like education level, family size and age of the respondents. Monthly income of the households is taken as the dependent variable and remaining four variables are independent variables. The following results have been found from the use of the multivariate linear regression model.

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edit
*(5 variables, 100 observations pasted into data editor)

reg monthlyincomeofthefamily age monthllyspendingonreligiousactivi numberoffamilymembers edn
```

Source	SS	df	MS				
Model	1.1787e+10	4	2.9468e+09	Number of obs =	100		
Residual	2.9000e+10	95	305261263	F( 4, 95) =	9.65		
Total	4.0787e+10	99	411989991	Prob > F =	0.0000		
				R-squared =	0.2890		
				Adj R-squared =	0.2591		
				Root MSE =	17472		

monthlyincomeofthefamily	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
age	210.5758	162.7958	1.29	0.199	-112.6147	533.7664
monthllyspendingonreligiousactivi	31.34097	9.421306	3.33	0.001	12.63731	50.04463
numberoffamilymembers	4299.952	2324.156	1.85	0.067	-314.0818	8913.986
edn	1834.212	572.305	3.20	0.002	698.0429	2970.381
__cons	-28411.56	14476.55	-1.96	0.053	-57151.15	328.0313

```
vif
```

Variable	VIF	1/VIF
edn	1.56	0.640732
monthllyspe-i	1.26	0.796041
age	1.22	0.817593
numberoffa-s	1.10	0.912073
Mean VIF	1.28	

```
predict u, resid
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Figure 1 linear regression model

This result shows that R-square is 0.2890 ( F = 9.65, P= 0.000) that means 28% fluctuation in dependent variable is explained by the independent variables. The model is free from multicollinearity. And out of four independent variables only two have significant effects on the dependent variable. The two independent variables coming out to be significant are education ( p =0.002) and monthly spending ( 0.001). These independent variables are highly

significant at 1% level. The variable education level (coef. =1834. 212) and monthly spending (31.3409) are positively associated with the monthly income of the family. The independent variable education is positively related with the dependent variable meaning thereby highly educated people are spending a major part of their income on superstitious and religious activities. In addition, Monthly spending as an independent variable is positively related with the dependent variable monthly income. Since monthly spending is a significant variable in this analysis, it can be inferred that there exists a relationship between incomes and spending on religious activities. As already explained, spending higher amount of income on religious and superstitious activities is nothing but an act of irrationalities causing irrational behaviour on the part of the people.

There is no denying the fact that irrational behaviour affects the income of the households. If people spend huge amount of their income in matters relating to superstitions-driven activities, then somehow it becomes a difficult proposition on the part of such people to manage their family at the desired level of living standard. It being a subjective analysis within the domain of the behavioural economics, it would be better to develop certain indices to measure the level and degrees of irrationalities among the people across socio-economic and psycho-cultural categories. There is no unique way to measure the level of irrationality of a normal individual. The questionnaire method as has been used in this study is one of the methods but efforts have to be directed towards developing concrete methodologies to measure superstitions-based preference heterogeneity and the resultant choice failure further leading to capability deprivations among the masses.

#### 4. CONCLUSIONS

Superstitions-based activities and practices create conditions for irrational behaviour on the part of the people. With the help of a questionnaire method it is found in this study that many people spend a major part of their incomes in religious and superstitious activities. This is a universal problem but this study has been limited to the domain of an experiment with hundred sample households selected both from rural and urban pockets of one of the backward districts of the state of Odisha. Despite being highly educated and prospered, people across categories are following such practices blindly. In this study the inference that has been drawn is that education is the most significant factor influencing income level as well as the spending pattern of the households. We could get to know that the neo-classical rationality postulate is just an assumption and it is non-existent in the real world. Superstitious practices are responsible for violation of the assumption and irrationalities are generated as a result of such superstitious behaviour of the people. Backwardness and low economic status are associated with irrational behaviour which in turn is getting affected by low economic achievements level on the part of the people. Thus, irrational behavioural patterns have an income effect and income does have an effect on the way economic agents behave in the real world situations.

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