



UNEXPECTED LOSSES, IMPORTANCE OF NON-FUNGIBILITY OF MONEY AND PSYCHOLOGICAL REASON FOR NON-FUNGIBILITY OF EXPENDITURE AND INCOMES

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Abstract

In our day to day life we incur costs and losses. The paper treats costs and losses as outflows of money. Some outflows of money are expected and accounted for mentally in advance (EMI of a car loan or a home loan), whereas certain outflows are not expected and have to be met unawares (a medical bill or a theft). The present paper explores how both these types of outflows affect us hedonically. Pain and pleasure are the two basic hedonic states discussed. These are psychological states, not physical. The study discusses contingency accounts and mental accounting of contingency. Non-fungibility of money which is one of the central concepts of Mental Accounting is discussed as a useful tool for contingency situations. The work investigates possible psychological reason for non-fungibility of money.

Key words : *Mental Accounting, Prospect Theory, Non-fungibility of money, Expected and Unexpected Losses, Economic Outflows & Inflows, Contingency, Gambling Instinct, Pain*

Pain due to expected and unexpected economic outflows

As per the prospect theory, (Kahneman and Tversky, 1979) gains and losses are treated differently with reference to some reference point. The gain function is concave while loss function is convex with higher sensitivity compared to gain. It is feasible to say that a net economic outflow of money creates pain while the inflow brings pleasure. People try to increase the pleasure due to inflow and reduce the pain due to outflow to enhance their well-being. This hedonic optimization is carried out at mental or psychological level and the process is referred to as hedonic editing, (Thaler and Johnson, 1990). The present research explores the difference between expected and unexpected economic outflow at hedonic level. One intuition is that unexpected outflow creates more turbulence and pain compared to a similar but expected outflow.

Evidence for difference in level of pain for expected and unexpected outflows

To test this intuition the researchers carried out a simple thought experiment.

Two persons A & B earn a monthly income of INR 15000 and enjoy a similar standard of living. Mother of both A and B are facing a kidney stone problem. A's family doctor advised him that his mother is having 90% chance that she will have to be operated after 6 months as it is less probable that the oral medicines will cure her problem. B's doctor advised him that his mother will not have to be operated in at least 2 years' time as the oral medication will most probably solve the problem. After 6 months, mothers of both A and B had severe pain in kidney region due to stone and the doctor said that she will have to be immediately operated and the cost of operation will be INR 100000. Neither A nor B have medical insurance.

Whom do you think would worry more due to the financial liability coming ahead due to their mother's illness?

A [31]

B [76]

N=107

The number in parenthesis indicates number of people selecting that option. 107 respondents participated in the experiment. (N=107). A significant number of respondents [76] (around 71%) understand that B will be experiencing more pain as he had not anticipated the cost due to his doctor's opinion. The results point out that people very well understand that unexpected economic outflows are more painful. This is natural because such outflows are not planned for. Similarly unexpected economic inflow would bring more pleasure compared to the expected one. Hence the pain and pleasure both gets modulated by the element of unexpectedness or uncertainty.

Contingency accounts and non-fungibility of expenditure

Since people are aware about the unexpected economic outflows, they generally make allocations for such unexpected outflows. People do have sensitivity towards such uncertain events and the expenditures associated with such events. Because of this sensitivity, insurance products has relevance. Insurance (Life, General and Medical) is a strategy to finance such unexpected outflows.

We can consider these allocations as contingency accounts. Apart from explicit and formal accounts, people can create their own mental accounts also. Mental account and Mental Accounting has been central concept of Behavioral Economics, (Thaler 1980, 1985), Tversky and Kahneman (1981). It is these mental contingency accounts that the paper tries to explore here. Such less explicit accounts expose non fungibility of money (Thaler 1980, 1985). The researchers assume that money in such contingency accounts is less liquid compared to normal accounts.

Evidence for non-fungibility of money in contingency accounts

Consider the following hypothetical question.

Two friends A and B each often faces a problem wherein they exhaust all the money in their wallet and sometimes face difficulty funding an emergency. In order to avoid such situation



in future, A has now decided to put an INR 500 note in a small pocket of his wallet and will treat this as emergency money which he will use in only specific and emergency situations. When B hears this from A, B thinks this is not a good idea and will not help and so he doesn't follow this strategy. Whom do you think is wiser?

A [73]

B [34]

N = 107

[73] (68.2%) of the total 107 respondents feel that A is following a right strategy for emergency funding. The results suggest that people do value such mental accounting as it helps them to create self-control. The INR 500 in the small emergency pocket of A is in a contingency account and becomes less liquid and it helps A in emergency situations and the respondents do acknowledge this fact. This the researchers feel is important evidence towards non-fungibility of money.

Income non-fungibility

The above thought experiment points out that money in contingency mental account is less liquid and people do acknowledge this fact. This helps them to plan for future unexpected economic outflows. Just as there are different mental accounts where money can be allocated and each account has different temptation (Shefrin and Thaler 1981, 1988), (Kooreman, 2000), Heath and Soll (1996), Zelizer (1994), there is also evidence that value of money also changes depending on the source of income, O'Curry (1997).

Consider the following thought experiment that the researchers carried out.

Imagine that you do not invest in equities as you do not have faith in equity investments. (But since your friend insisted, you invested INR 10000 last week on a particular stock considering it as a sunk cost) [So you had deposited INR 10000 before 2 years in a fixed deposit of a reputed bank considering it as safe investment]. (For the entire week the stock that you had invested in had not moved but yesterday suddenly due to some news the stock jumped 20% and you sold the stock at INR 12000 making an unexpected profit of INR 2000) [Your fixed deposit matured yesterday and you have INR 12000 in your bank account i.e. you earn an income of INR 2000 over a period of 2 years]. You wanted to buy an expensive perfume for yourself costing INR 2000, but considering your limited budget, you were avoiding buying it.

Will you buy the perfume considering your recent inflow of INR 2000 from (Stock market gain) [Fixed deposit savings]?

Yes (40), [21]

No (14), [32]

N = (54), [53]

Out of total 107 respondents, 54 were asked the question with curved brackets (income from stock market gain) while 53 were asked the question with box bracket [income from fixed deposit saving]. For the scenario where the person had earned out of equity investment, since the income was unexpected

and easily earned, significant percentage of people (40, 74%) agree to buy the perfume which is a luxury expenditure while when the money is earned with certainty as in case of fixed deposit, less number of people [21, 39.62%] agree to buy the luxury good. Money earned easily has more propensity to be spent easily. Money earned with difficulty is sticky and difficult to spend. This also has common sense appeal.

Philosophical investigation of non-fungibility of money and the gambling instinct

Here the paper tries to explain philosophically why there is non-fungibility of money with respect to income and expenditure and why it is so prevalent among people. Researchers feel non-fungibility of money has its roots in uncertainty of outcomes.

Gambling instinct - Treating of outflow of money as bets

Let us treat man as an inherent gambler who treats economic outflows as gambling bets. This bet carries a certain risk. This risk is positive. It can be infinitesimally small but not zero.

Buying of government bond can be treated as a gamble on stability of a government rather than treating it as a risk free instrument. Long term equity investments can similarly be considered as a gamble on the level of premium that they will fetch over bonds.

Now consider an unusual example which is normally not considered as a gamble. As for example consider and expenditure towards buying a good. In this case the gamble is whether the product will provide the same level of experienced utility as that expected while buying. It is a gamble because it is not certain whether both utilities will match and there is an amount of uncertainty, however small it may be. Buying regular products carries almost zero or infinitesimal risk. New products carry relatively more risk as they have never been tried and in the domain of utility they are of unexpected nature.

Take an example of using regular toothpaste. It can be considered as a gamble with very small risk. It is not zero but infinitesimal because one is never cent percent sure of the product from the subconscious mind as there is latent question about the quality. There is a small amount of uncertainty to every action and hence each expenditure or outflow of money is a gamble with at least infinitesimal risk.

Gambling instinct during answering a question

Consider the following anecdote and the following question from the famous paper of Kahneman and Tversky. (Tversky, Kahneman, 1983)

Linda is 31 years old, single, outspoken, and very bright. She majored in philosophy. As a student, she was deeply concerned with issues of discrimination and social justice, and also participated in anti-nuclear demonstrations.

Which is more probable?

1. Linda is a bank teller.
2. Linda is a bank teller and is active in the feminist movement.

When people answer this question it still can be considered a



gamble because while answering one is not sure of the right answer. Surprisingly in the above question people choose option 2 more often than option 1. It is statistically clear that option 1 is more probable than option 2. Researchers feel similar gambling instinct of humans is at work to create this fallacy. When posed with the above question people try to give more specific but less probable answer. The reason that they become more specific is because though more specific is less probable but it is a risky bet with a high return. In this case the return is the joy of getting less probable answer right. Getting the less probable answer gives more joy. This way one outshines other by thinking differently. This greed of differentiating oneself takes over rationality and one tends to answer option 2 or more generally less probable but more specific answers.

Gambling and non-fungibility of money

Why there is not exact fungibility of money, why money from different sources carries different values? If we treat all outflows as bets as explained above then the value of the money spent (or we say the bet) depends on what is expected out of it in return (expected win/utility). And more the expected win / utility more will be the money (spent) valued. So the source of non fungibility may lie in treatment of expenditures as gambles.

Income non-fungibility can be explained similarly. Money which was not expected to be earned will be valued less and will be easier to spend. While the money that is hard earned and expected with more certainty (monthly salary), carries greater value and will be difficult to spend also.

Discussion

Behavioral Economics has contributed to a great extent to understand actual behavior of economic agents. Psychological aspects of decision making like mental accounting explains many behaviors that as per standard economic theory are not rational. The current research was intended to highlight difference in level of pain due to expected and unexpected losses because such difference will lead to take different economic actions. Those who will be more sensitive towards unexpected losses will understand importance of insurance and are more likely to buy such products. Insurance is an explicit contingency account. However people also use non-explicit mental accounting as a device to help them control their expenditures. This has economic consequences. Treating outcomes as

uncertain is one of the important human tendencies. Man is gifted with thinking. Thoughts bring recognition of uncertainty. Uncertainty gives birth to fear and greed which are the most basic motivations for taking economic decisions. Hence it becomes important to understand outcomes with uncertainty attached with them.

Conclusion

Level of pain caused due to economic losses gets modulated by the element of uncertainty. Unexpected losses cause more pain than expected ones. People use non-explicit contingency accounts and mental accounting for funding emergencies. Non-fungibility of money is helpful to people for addressing self-control problems. There is a psychological process that is responsible for non-fungibility and it is linked with treating outcomes as uncertain with varying degrees of uncertainty.

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