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A CONCEPTUAL PAPER ON RISK

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ABSTRACT

In the present global scenario the concept of risk has became a focal point for those who are thinking and acting in markets. The market may be Financial, Commodity, and Currency etc. The market crises and volatility in the past four decades conformed that the centrality and importance of risk and its analysis. The present paper explains the concept of risk and the two dimensions of risk like subjective risk and probabilistic risk and explains the concept of uncertainty.

KEYWORDS: Risk, Uncertainty, Probability Risk, Subjective Risk

INTRODUCTION

In the present global scenario the concept of risk has became a focal point for those who are thinking and acting in markets. The market may be Financial, Commodity, and Currency etc. The market crises and volatility in the past four decades conformed that the centrality and importance of risk and its analysis. The modern society has become increasingly complex in risk facing (OECD, 2003). The growing numbers of independencies between different societal functions, a failure in those systems generally affects the other systems (Amin, 2000; little, 2002, 2004). In this way the concept of risk not confined to one sector, it become increasingly trans-boundary in nature. There is a lot of literature on risk in agriculture sector and related issues, but still it is difficult to find a generalized definition of risk (Khekha et al, 2005).

RISK

The widely known classical book of "Risk, Uncertainty and Profit (1921)" by Frank & Knight made an important distinction in between the risk and uncertainty. According to this definition risk refers to the situation where probabilities are known and uncertainty is the situation where the probabilities are unknown to decision maker and most of the agriculture economic text book used to differentiate between risk and uncertainty. Risk is restricted to the situation where probabilities can be attached to the occurrence of events which influence the outcome of the decision making process while uncertainty refers to situations where it is not possible to attach probabilities to the occurrence of the event (Ellis, 1993). Hazell and Norton (1986) have given a pointed out distinguishing difference on risk and uncertainty based on the knowledge of probabilities is not useful since the data for estimating income distribution are usually restricted to relatively subjective anticipations by the farmers. Hardaker et al (1997) stated that the risk and uncertainty based on the probability of events is not a useful distinction since cases where probabilities objectively known are expectations rather than the rule in decision making. Instead, they argued that uncertainty as imperfect knowledge and risks as uncertain consequences. McConnell & Dillon (1997) explain about risk and uncertainty based on the impact of the outcome of events. They stated that while uncertainty is always present, risk might not be. Risk is only present when the uncertain outcomes of a decision

are regarded by the decision maker as significant or worth worrying about, that is to say when they affect his or her well being. Hardaker (2000) tried to explain the complexity of the risk definition and uncertainty, the common definitions of risk according him are: the chance of bad outcomes, the variability of outcomes, and the uncertainty of outcomes. The risk more explained by the chance of bad outcomes (negative).

The other side the concept of risk is a probability issue; it is a component of frequency and magnitude (Jones 2006). According to Laplace (1951) the probability is the ratio of number of cases favorable to an event to all possible cases: it means all the events equal likely. The risk include not only the down-side risk the up-side risk also treated as risk it means the excess expected return also treated as risk (Damodaran, Aswath 2003). In general the risk defined: *Risk* is the possible or chance of meeting risk or suffering losses: but the most famous definition of risk given by Frank & Knight (1921) who wrote the active research in a foundation of Probability (John Maynard Keynes, 1921), and Kolmogorov (1933) developed the contemporary research in the same period of time.

Risk is a combination of probabilities and its consequences; risk undertakes the consequential events like the opportunities of benefits (positive side) or the opportunities of threats (negative side) (Zvonko Kremljak and Ciril Kafol, 2014). Risk analysis is a tool helps to investigate the related uncertainties of future outcomes. The general opinion of the decision makers was the results of the risk analysis are linked with a lot of uncertainties NUREG (1994). In the risk analysis process it takes the certain and uncertain quantity of chances and based on this chances it calculate the occurrence event in the future T. Nilsen, T. Aven (2003), another definition for risk and uncertainty are; risk can be defined as the imperfect knowledge where the probabilities of the possible outcomes where known, and the uncertainty exist when the probabilities of the possible outcomes were not known.

In the beginning days the theories of risk concepts explained by different researchers. Most of these researchers agree that the concept of risk is a probability issue, but a debatable issue rise. The concept of risk weather it is a subjective or objective. The subjective concept of probability is generally the human beliefs it means the beliefs are not in an intrinsic in nature. The objective concept of probability is generally real in nature it means it may analysis based on statistical analysis.

The roots of subjective nature of probability were extracted from Hume (1748) after developed by Franck Ramsey (1931), Bruno de Finetti (1937), and Leonard Savage (1954). The present study is more focused on subjective probability of risk. The subjective probability is generally human beliefs as we discussed before but these beliefs are differing to person to person. The subjective beliefs are plays a crucial role in decision making process. In many occasion the subjective probability theory helps to experts and market participants to take decisions in an uncertain situation (Morgan & Henrion 1990).The predictions and the estimations of risk will occur or true in the future uncertain environment. The prediction and estimation are generally based on the idealizations are unlikely to hold in the real world (Wallsten, T et al 1997, Dan Ariely et al. 2000). The famous subjective theory of probability referred by Savage (1954) according to Savage's expected utility theory the probability measure is in general underlies the choice behavior. The subjective theory generally accepts the diversity of applications by two individual persons can hold different beliefs in the same circumstances. The subjective risk is important because most people are willing to take the above average risk to obtain above average returns on their investment it is a psychological behavior of human being but many people focused on short term volatility (Avery & Elliehausen, 1986). The prejudiced probability theory is sturdily associated with pioneers,

Leonard Savage, Frank Ramsey and Finetti. These authors presented in different framework for understand the concept of subjective probability. The common features in all different frameworks are; the probability assignments are related with the value of judgment about the other attributes and money.

Ramsey (1931) contends that the human beliefs can be measured by utilizing consolidated inclinations utility technique. Cooke (1986) clarify the subjective likelihood hypothesis depends on the building up an identicalness inclination in the middle of aggregate results and an occasion. Savage (1956) took a shot at the complete framework for comprehension likelihood on the premise of inclination between acts. Jeffrey (2004) took a shot at subjective likelihood connected to wagering, utilities and Value judgments.

In another method for looking the subjective probabilities are more problematic to use by and by. The chief might want to know the subjective likelihood of an occasion, the leader would be glad about the likelihood. This likelihood impacted by the risk disposition and the circumstance of leader.

The target likelihood for the most part dictated by the physical structure of the world. The target likelihood is an occasion which happens in view of investigation by measuring the recorded perceptions. The target likelihood estimations are more exact as opposed to the subjective probabilities, for example, individual estimations. The area of target probabilities surveys and talks about the accompanying sorts of probabilities; Classical probabilities, frequents probabilities, inclinations probabilities and coherent probabilities.

The idea of traditional probabilities connected by Laplace (1951) in a circumstance where the limited number of results which are just as liable to happen. By traditional probabilities the likelihood of one thing is equivalent to the proportion between the quantities of results bringing about aggregate results. In a typical point of view the prerequisite is met if there is no proof that supports results over others. It implies the established probabilities were fitting when the confirmation symmetrically adjusted (Hajek, 2001, 2007). These probabilities were not fitting, in actuality, circumstances past the arbitrary betting and testing, as we don't have a limited number of results which are similarly liable to happen.

The successive likelihood model idea established on law of huge number saying that frequencies join as far as possible under specific conditions. Shockingly these conditions themselves engage the likelihood. By likelihood every one of the tests are free and it is accepted that the normal occasion will exist same in all analyses (Bedford and Cooke, 2001). The idea of successive likelihood hypothesis is pertinent just in those circumstances for which we can possible of repeatable investigations, it implies; the circumstance is viewed as comparative the conditions under which the tests are to be performed can't be indistinguishable, all things considered the result would be precisely same (Hajek, 2007).

The logical probabilities was first proposed by Keynes (1921) and later taken up by Carnap (1922, 1929). The general idea behind this probability is; the probability expresses an objective of logical relation in between the proposition, a kind of partial entailment. In probability theory there are number of intervals [0, 1] which measures the objective degree of logical support that evidence gives the hypothesis (Franklin, 2001). In the view of (Franklin, 2001) probability have a spontaneous initial attractiveness, in representing a level of agreement found when researchers evaluate hypothesis in the light evidence. However, the notion of partial entailment has never received a satisfactory interpretation (Cowell et al. (1999) and Cooke (2004). In general the logical probabilities are not suitable for application.

Uncertainty

Uncertainty is generally applies in the prediction of future events it means the state of not knowing the proposition weather it is going to happened or not going to happen. Uncertainty can be defined as *"any deviations from the unachievable ideal of completely deterministic knowledge of the relevant system"* (Walker et al, 2003). The firms and lenders of the society must deal with the uncertain character of environment. (Sandmo 1971) (Leland 1972). The decisions of these people generally made in the state of indeterminacy. The indeterminacy concepts exist with two mathematical systems: Probability theory (Kolmogorov 1933) & Uncertainty theory (Liu 2007). The concept of probability theory started in the 17th century by Pascal and Fermat. The concept of probability theory applicable when the samples are available (Baoding Liu 2014). In the other hand when the only belief degrees available in that situation the uncertainty theory is applicable to predict the future (Liu 2012). Leanne Knobloch Denise Solomon (1999) studied the uncertainty theory and describes the communicative behavior of human being in terms of inability of attitude, feeling and behavior.

"Uncertainty must be taken in a sense radically distinct from the familiar notion of risk, from which it has never been properly separated. The essential fact is that 'risk' means in some cases a quantity susceptible of measurement, while at other times it is something distinctly not of this character; and there are far-reaching and crucial differences in the bearings of the phenomena depending on which of the two is really present and operating.... It will appear that a measurable uncertainty, or 'risk' proper, as we shall use the term, is so far different from an un measurable one that it is not in effect an uncertainty at all(Frank Hyneman Knight 1921)".

CONCLUSIONS

The role of risk and uncertainty plays an important role in adoption of innovative ideas. In the field of finance most of economists and social science researchers concentrated on several pertinent notions namely; uncertainty about future value of an investment and sunk cost provides an alternative explanation for investment lags.

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