

Utility Theory and Its Application on Investment Decisions in Kenya

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Abstract:

This article undertakes an examination of the influence of utility theory on investment decisions. Utility theory, which is rooted in economics and decision theory, offers a framework that transcends conventional monetary returns by taking into account subjective happiness and value. The article explores the theoretical foundations of usefulness methodology and its practical implications in investment decision-making. Utility theory empowers investors to make decisions that are commensurate with their risk preferences and overall well-being by including utility considerations alongside anticipated returns. It facilitates the quantification and comparison of utility across investment alternatives and acknowledges the varied risk preferences of individuals. Utility functions mathematically articulate preferences and facilitate decision-making by assigning utility values to outcomes. Nonetheless, while utility theory proffers valuable insights, its implementation must consider additional factors such as personal circumstances, financial aspirations, time horizons, and market conditions. The article discusses the amalgamation of utility theory with behavioral finance, as well as the criticisms and constraints of utility theory. In summary, utility theory has had a noteworthy impact on investment decisions, enabling investors to make informed and personalized choices that optimize their well-being and satisfaction.

Keywords: Utility Theory, Investment Decisions, Expected utility, Prospect theory

1. Introduction

Utility theory, rooted in economics and decision theory, has emerged as a fundamental concept in understanding individual preferences and choices under conditions of uncertainty. In the realm of investment decision-making, the impact of utility theory has been substantial, providing a framework that goes beyond the traditional focus on expected monetary returns. This concept paper aims to delve into the influence of utility

theory on investment decisions, exploring its theoretical underpinnings and practical implications.

Investment decisions are inherently uncertain, as investors navigate a complex landscape of potential outcomes and associated risks (Kumar & Goyal, 2016). By combining the idea of utility, which stands for a person's subjective happiness or worth received from various outcomes, utility theory provides a useful lens through which to assess these choices. Utility theory helps investors to make decisions that are in line with their risk preferences and maximize their overall well-being by taking utility into account alongside predicted returns.

Utility theory has had a significant impact on investment decision-making by providing a framework to analyze and understand individual preferences and choices under uncertainty. Utility theory recognizes that investors have various attitudes toward risk and that investment outcomes are uncertain. The conventional economic theory makes the assumption that investors act logically when making various judgments. To explain the effectiveness of the market that contains all available information while making financial decisions, the standard financial practice includes a variety of concepts and theories, such as the expected utility theory, Markowitz portfolio principles, the capital asset pricing model, etc. Investors are presumed to be rational (Bihari et al., 2022). Value theory helps investors to evaluate the expected value of various investment possibilities while taking prospective outcomes and their corresponding probability into account. Investors can choose options that best suit their risk tolerance and maximize projected benefits by using this approach. Investors choose investment options that offer the highest expected utility by using the notion of expected utility, which combines the usefulness of each outcome with its probability. This strategy considers an investor's subjective happiness or value obtained from various outcomes in addition to only focusing on predicted financial returns.

The computation of expected utility, which entails dividing the utility of each possible result by the associated probability, is the fundamental principle of utility theory. Using this method, investors can assess and contrast various investment options according to the projected utility they provide. Investors can handle the inherent ambiguity and make wise selections by quantifying and combining utility values to acquire insights into the relative desirability of various investment options. Moreover, utility theory recognizes that individuals exhibit diverse risk preferences, influencing their investment choices. Risk aversion, risk neutrality, and risk-seeking behavior represent different attitudes towards

uncertainty (Jia et al., 2023). Through utility theory, investors can assess their risk preferences and select investments that align with their comfort levels. Consequently, the impact of utility theory extends beyond maximizing expected returns, as it addresses the subjective nature of risk and accommodates the varying risk appetites of investors.

Utility functions, which mathematically express a person's preferences and assign utility values to various outcomes, are another idea introduced by utility theory. These functions offer a systematic framework for decision-making by enabling the quantification and comparison of utility across investment possibilities. The logarithmic, power, and exponential functions are often used utility functions and each one captures a unique component of personal preferences and risk tolerance. Although utility theory offers useful insights into investment decision-making, its use in real-world contexts requires taking into account additional aspects. Personal circumstances, financial aspirations, time horizons, and market conditions frequently have an impact on investors' choices. These contextual variables interact with utility considerations to influence people's final investment decisions. As a result, utility theory has had a big influence on how people make investment decisions by establishing a framework that takes risk attitudes and subjective preferences into account. Utility theory enables investors to make more informed and individualized decisions by taking utility together with expected returns. Investors can align their decisions with their unique risk preferences by evaluating expected utility and using utility functions, so increasing their total happiness and well-being. Although utility considerations are only one aspect of the vast terrain of investment options, utility theory implementation should be conscious of the contextual elements that influence investment decisions.

2. Literature Review

2.1 Utility Theory, Prospect Theory and other related Theories

Utility theory has been extensively studied and applied in the field of investment decision-making, contributing valuable insights into the factors influencing investor behavior and the optimization of investment portfolios. The efficient market hypothesis is the cornerstone of conventional finance. According to this theory, investors have access to market data and asset values, and they are also thought of as sensible. Even though the field of modern finance has developed steadily, it is still challenging to provide a scientific justification for why people act irrationally when dealing with money. Behavior finance incorporates the importance of what investors should do and combines the fundamentals

of traditional finance with what individuals really do in terms of their investment decisions, in contrast to traditional finance, which assumes people rationalize and improve their financial decisions. (Madaan & Singh, 2019)

Markowitz laid the foundation for modern portfolio theory, which incorporates utility theory. Mean-variance analysis was a concept he presented, highlighting the trade-off between expected returns and portfolio risk. His research showed that, rather of concentrating just on returns, investors can build optimal portfolios by taking into account the covariance between assets and their predicted returns and attempting to maximize utility. With their prospect theory, Kahneman and Tversky contested the premises of utility theory. They claimed that when faced with rewards and losses, people consistently display biases and deviate from making reasonable decisions. The notions of declining sensitivity and loss aversion were first presented by prospect theory, which postulated that people give potential losses more weight than equal rewards. This conclusion has important ramifications for investment choices because, in the face of prospective losses, investors may show risk aversion, departing from the expected utility framework.

Most institutions distribute dividends to increase their earnings through investments in high-yielding ventures led by corporate management. This approach suggests that dividends are less effective as a means of signaling and reducing costs in developing nations compared to institutions operating in well-established capital markets (Mukhongo et al., 2022). The analysis of alternative utility functions to represent personal preferences and risk attitudes is one of utility theory's future prospects. For instance, the recently developed notion of temporal preference takes into account a person's evaluation of results at various times in time. A time-discounting paradigm called hyperbolic discounting contends that people place more importance on immediate results than on those in the far future. Investors may prioritize short-term gains above long-term returns if time preference is taken into consideration while developing utility functions. Additionally, behavioral finance, which investigates the psychological and cognitive variables that affect financial decisions, has made use of utility theory. The performance of a portfolio and investment decisions can be impacted by behavioral biases like overconfidence, loss aversion, and herding behavior. A more thorough knowledge of investor behavior and decision-making is possible by combining insights from behavioral finance and utility theory.

It is significant to highlight that the literature has also looked at utility theory's detractors and restrictions. Some academics contend that the core tenets of utility theory—perfect rationality and unchanging preferences—do not adequately describe actual decision-making. To overcome these issues and provide a more accurate picture of decision-making under uncertainty, behavioral economists have suggested alternative theories including

prospect theory and cumulative prospect theory. The combination of utility theory with behavioral finance offers a more thorough knowledge of investor behavior and decision-making. A more complex understanding of investor behavior and decision-making is provided by the integration of utility theory and behavioral finance. The use of utility theory in the intricate world of investment decisions is still being refined and explored as a result of continuing research.

2.2 Utility Theory on Investment Decisions

Utility theory has had a significant influence on how people make investment decisions because it offers a theoretical framework and useful framework for comprehending investor behavior in uncertain situations. Utility theory provides insights into how people make decisions that maximize their subjective happiness or value generated from investment results by incorporating utility considerations and risk preferences. The ability of utility theory to account for risk aversion or risk-seeking behavior is one of its major accomplishments. This understanding emphasizes that investors' attitudes toward uncertainty vary and that their motivations extend beyond anticipated financial benefits. Utility theory enables investors to choose investment options that suit their comfort levels and risk tolerances by incorporating risk preferences into decision-making. This feature is essential for assisting investors in navigating the complicated terrain of investment options and building portfolios that take their preferred level of risk into account (Jia et al., 2023). The majority of studies utilizing the risky investment game have not employed it to derive a risk aversion parameter based on Expected Utility Theory (Holden & Tilahun, 2022). Utility theory also makes it possible to evaluate investment choices in a way that goes beyond just comparing predicted returns. Investors can weigh the probabilities-weighted benefits of each result, accounting for both gains and losses, by calculating the expected utility of various possibilities. This method gives investors the ability to make choices that will optimize their overall happiness, even if that means settling for lower predicted financial returns in exchange for lower risk or other desirable qualities. Retail investors prioritize stock selection as their primary concern, focusing on businesses that align with their preferences. The investment decisions and behavioral intentions of these investors are influenced by the type of celebrity associated with the investment. Specifically, endorsements from entertainment celebrities, particularly those involved in single-level endorsements, have a greater impact on investment choices (Shiva et al., 2022). The relevance of the risk-return trade-off in making investment decisions is also emphasized by utility theory. Investors need to assess how the likelihood of increased returns compares to the equivalent rise in risk. A framework for methodically evaluating this trade-off is

provided by utility theory, which enables investors to pinpoint investment choices that offer the best balance between projected returns and risk. This factor is especially important for portfolio optimization, when decisions are made regarding asset allocation and diversification in order to attain the best possible risk-return profile.

One crucial element in overseeing a company's financial performance revolves around the decision to enhance profitability, along with various financial and investment options. The utility theory aspects can significantly influence these choices (Kasidi et al., 2023). But it's important to recognize that utility theory is subject to criticism and has its limitations. One objection focuses on the rationality presumption at the heart of utility theory, which holds that people consistently make the best decisions. In practice, investor behavior frequently deviates from the expected value framework due to cognitive biases, emotions, and information asymmetry. By adding insights from psychology and behavioral economics into the analysis of investment decisions, behavioral finance, an extension of utility theory, makes an effort to address these constraints. A further limitation is the difficulty of precisely defining usefulness and putting a value on various outcomes. It is difficult to assess utility across various investment possibilities since utility functions are arbitrary and differ between people. Furthermore, long-term or non-financial elements that are significant to investors, such as social impact or ethical considerations, may not be adequately captured by utility theory.

3. Conclusion

By offering a theoretical framework that takes into account subjective preferences, risk attitudes, and the appraisal of predicted utility, utility theory has had a significant impact on investment decision-making. This conceptual framework has made it possible for investors to look beyond a strict emphasis on anticipated financial returns and take into account their own personal happiness with the results of their investments. Utility theory has improved decision-making by offering a more thorough explanation of investor behavior under uncertainty in this way. Quantifying and contrasting utility across investment possibilities has been made possible thanks to the advent of utility functions. These mathematical depictions encapsulate an investor's preferences for risk and offer a methodical framework for assessing different options. Utilizing utility functions, investors can weigh the expected utility of various options and choose options that will maximize their overall happiness while also fitting their risk tolerance and personal objectives.

Utility theory's influence on investment choices greatly depends on investors' risk preferences. Utility theory allows for the customization of investment choices to suit these preferences because it acknowledges that individuals display varied degrees of risk aversion

or risk-seeking behavior. By balancing predicted returns with risk, it helps investors to make investments that match their degree of comfort and appetite for risk. Utility theory also highlights the trade-off between risk and return, which makes it easier to optimize investment portfolios. Investors can build portfolios that optimize expected utility depending on their risk preferences by analyzing the risk-return profiles of various investment opportunities. To achieve diversification, asset allocation, and risk management goals, this factor must be taken into account.

Additionally, by using utility functions, utility theory offers a way to quantify and evaluate utility across different investment possibilities. These mathematical models capture a person's preferences and allow various investments to be assessed according to their utility values. Utility theory helps to make investment decisions more complex and individualized. It encourages investors to make decisions that are consistent with their attitudes toward risk by acknowledging that investors have various risk preferences, ranging from risk-averse to risk-seeking. By taking into account each investor's unique risk tolerance and investing objectives, this strategy aids investors in finding a balance between anticipated returns and risk. Despite the fact that utility theory offers a useful theoretical framework, its use in actual investment decisions may be affected by a number of variables other than predicted utility. Along with utilitarian considerations, specific investment objectives, market conditions, and individual circumstances frequently influence investment decisions.

Because it offers a framework for analyzing preferences and decisions under uncertainty, utility theory has a significant influence on investment decision-making. Utility theory assists investors in making better educated and individualized investment decisions that are in line with their unique needs and goals by considering risk preferences and expected utility estimates. Investment decisions are often influenced by factors such as expected returns, risk, liquidity, time horizon, and individual preferences. Utility theory helps investors evaluate these factors and make decisions that align with their preferences and risk appetite. By considering utility theory, investors aim to optimize their investment decisions to achieve their financial goals while taking into account their personal preferences and risk tolerance.

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