

Research Article

A Review on Risk, Return, and Valuation in Financial Management

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Abstract: *The intertwined notions of risk, return, and valuation are core to financial management and decision-making. The study aims at summarizing available studies on financial risk identification and management, return determination and optimization, and valuation areas that have comprehensive use in most financial settings. According to the results disclosed, financial risk is not a single-focus phenomenon but encapsulates operational, credit, market, and liquidity risks, and measuring approaches like Value at Risk and Monte Carlo simulations, as well as AI-based predictive models, enhance forecasting accuracy. Moreover, the risk-return trade-off, which transcends the concepts of the risk-return stream, dependent on Modern Portfolio Theory and the Capital Asset Pricing Model, is being consistently transformed through behavioral and technical insights. Additionally, the fair value versus historical cost concept evident in valuation studies is equally important, as there is a history of recurring problems in valuing start-ups, intangible factors, and agricultural enterprises, which are confronted with and perceived as contingent. Digital assets, fintech, and ESG investing are developing to influence conventional risk recognition and pricing techniques. In conclusion, effective financial management to guide optimal managerial decisions in a volatile operating atmosphere necessitates a harmonious blend of traditional theories, behavioral perceptions, and modern analytical resources.*

Keywords: *Behavioral Finance, Financial Markets, Investment Decision-Making, Portfolio Optimization, Sustainability.s*

I. INTRODUCTION

Financial management is the cornerstone of an organization's success, achieved by deliberate planning, organizing, and control of resources. Financial management involves the methodical association of financial decisions on risk, return, and valuation to achieve organizational stability, profitability, and long-term growth. The dynamic market atmosphere in the current industry, which is characterized by increased uncertainty for enterprises and investors, requires a greater understanding of how these three financial pillars interact. In light of the rapid growth of global finance, technical progress, and changes in market capitalization, there is a stronger need to look at the literature to understand current trends, gaps, and problems in financial decision-making.

Risk management is a critical issue in financial literature, as it is directly linked to the concepts of sustainability and profitability. Regarding this, Takdirmin et al. argue that strategic action, when they claim that financial risk management implies the identification, quantification, and reduction of risks. Rehman et al. support the argument by adding that value at risk and artificial intelligence-based prediction tools are among the most functional instruments used, together with traditional approaches such as diversification and hedging. It is necessary to explore current studies to make the right strategic decisions and diminish the potential losses as financial conditions become unpredictable.

Return measurement and optimization are two essential aspects of corporate and investment finance. Based on the Modern Portfolio Theory established by Markowitz and the Capital Asset Pricing Model developed by Sharpe, theorists and practitioners quickly concluded that a trade-off between acceptable risks and expected returns was inevitable. Still, recent studies suggest that investors' behavioral biases play an even greater role in the decision-making process and portfolio development. Thus, exploring return-related concepts with the help of literature analysis provides an opportunity to understand how both quantitative and psychological factors influence investing efficiency.

The third pillar, valuation, is a key element of financial management as it is used to evaluate the company and the company's existing assets. The third pillar is the most difficult and imprecise one, due to the fact that Techniques based on discounted flow or market multiples are also characterized by uncertainty and data limitations and are difficult to apply to startups, IAs, and agriculture firms (Silva et al., 2021; Llerena et al., 2025). Examining valuation frameworks aids in determining their reliability and suitability for use in a variety of businesses, particularly in high-risk and volatile environments.



Overall, the idea behind this review is several-fold – in a complex global economy, the main focus is on developing a background of knowledge on how traditional theories and new instruments interact with each other to deliver better financial performance, stability and sustainability. Thus, the major aims of this review are as follows:

(1) examine the theoretical and empirical foundations of risk, return, and valuation; (2) analyze their interrelationships within financial management; and (3) explore emerging trends, innovations, and research gaps that shape modern financial decision-making. In an increasingly complex global economy, this review aims to offer a comprehensive knowledge of how conventional theories and contemporary instruments work together to improve financial performance, stability, and sustainability.

II. LITERATURE REVIEW

A) *The Concept of Risk in Financial Management*

According to Takdirmin et al. (2025), financial risk management is the methodical identification, assessment, and management of risks that have an impact on an organization's financial performance. Four main categories of financial risks are frequently identified in the literature. According to Самойлов (2024) and Juan Gaytán Cortés (2018), market risk includes vulnerability to changes in market variables, including interest rates and currency exchange rates. Potential losses from counterparty or borrower default are associated with credit risk (Muhammad Fahrul & Ellen Rusliati, 2016; Juan Gaytán Cortés, 2018). Internal procedures, systems, or human mistakes are the sources of operational risk, which can affect financial results (Takdirmin et al., 2025; Juan Gaytán Cortés, 2018).

Finally, liquidity risk is the inability to pay short-term debts or turn assets into cash without suffering a substantial loss (Самойлов, 2024; Muhammad Fahrul & Ellen Rusliati, 2016). However, the most recent study shows that these risk categories significantly affect the organizational profitability and take up to 67.1% of the banking sector's performance as well (Muhammad Fahrul & Ellen Rusliati, 2016). Diversification tactics and contemporary tools must be applied for risk management to maximize opportunities and minimize possible losses (Takdirmin et al., 2025).

Risk measurement and evaluation instruments are essential elements of financial management when the market is volatile. According to Baryshnikova and Ryazantseva, the beta coefficient is a vital metric for determining systematic risk, as it compares investment risks across asset classes depending on how much an asset is affected by the market. Capital projects could pose less danger than stock portfolios at one point, stressing the utility of beta coefficients for risk evaluation across investments with different attributes. (Karačić & Bukvić, 2016).

Defined as a complex tool to measure risk, Value at Risk determines the maximum potential losses in a portfolio over a given set of periods of time and confidence level. Among the three (VaR) calculation methodologies – Delta Normal, Historical Simulation and Monte Carlo Simulation – the most flexible and applicable one is Monte Carlo Simulation. Post World War II, the risk management principles have gone through multiple transformations and have produced such specialized roles as Chief Risk Officers. (Nichita, 2015).

Large businesses use measurement and assessment instruments to measure and mitigate potential losses as part of financial risk management. Hedging and diversification of coverage are examples of conventional strategies, but they are unable to cope with the intricate risks of the contemporary world (Muhammad Abdul Rehman et al., 2024). Drawdown risk indicators also have the potential to become more popular in research, which attracts more people's attention thanks to their simple strategy of ranking a market's pullbacks. Specialists also utilize common risk parameters in combination with drawing regulations and the Value at Risk indicator from the normal deviation of returns. (Geboers et al., 2022).

Although assessment methods differ depending on the application, Monte Carlo simulation and net present value are two popular approaches for assessing financial risks in projects involving public-private partnerships (Akomea-Frimpong et al., 2020). When compared to traditional approaches, AI-based credit risk models reduce non-performing loans by 20%, demonstrating the improved flexibility of modern AI-based technologies (Muhammad Abdul Rehman et al., 2024). Nevertheless, issues with cybersecurity, regulatory compliance, and implementation costs continue to exist. To effectively handle a variety of financial risks in the fast-paced world of today, it is imperative to combine classic and new risk management techniques.

Research on behavioral aspects of risk perception in financial management draws important insights into investor decision-making. Behavioral biases are instrumental in influencing how investors perceive and respond to financial risks, while investor demographics – age, marital status, education level, etc. (Svoboda, 2022)– depend on investor behavior. Risk appetite, “risk intended to take risk in exchange for potential reward,” and risk capacity, the “potential to take risk,” help form risk perception (Svoboda, 2022).

Big Five Personality Model According to Mukhtar and Jan, the Big Five personality model can be used to explain the relationship between the personality dimensions of an individual and his or her level of risk tolerance with respect to investments. “Investment choices are fine-tuned by risk-return ratios, income, market participation experience, rather than demographics such as age, gender, and overall risk tolerance” (Kannadas 2021). For example, to illustrate how human emotions and feelings are currently prevailing over our understanding of the financial markets, systematic reviews identified 17 different types of emotional and cognitive biases that affect the decision-making regarding investments. (Zahera & Bansal, 2018).

B) The Concept of Return and Its Measurement

Critical for virtually any field of decision-making, differentiating between predicted and actual results underlies the idea of return and how it is measured. Expected returns have a definitive place in Mean-Variance Optimization models (MVO) in portfolio optimization, one in which the investor contrasts different risk mitigation techniques with their target state of expected returns (Mohammed Ziane et al., 2024) for varying investments. When it comes to patient return and expectations enabling a return within healthcare, the difference between these is an incredibly strong indicator of actual results. Indeed, 91.6% of research studies demonstrate that chronic pain patients’ likelihood of return to work (Ebrahim et al., 2015). Post-treatment can be predicted by their expectation of returning to work. Similarly, 96% of research studies correlate patient recovery expectations, comparing either a consultation ending in a disability claim or a return-to-work scenario. Moreover, as recorded by Thusini et al. (2022), the very concept of return-on-investment in healthcare quality improvement has become broader than simply financial – it now envelops value and benefits without resorting to financial analogies.

The concepts of return and the risk-return trade-off have not lost their relevance for the optimization of portfolios and investment decisions. Portfolio optimization is the construction of a collection of assets that will provide an expected return under target conditions and at the same time minimize the risk (Mohammed Ziane et al., 2024). To combine these two conditions, the model of Mean Variance Optimization (MVO) is most commonly used, depending on the preference of the weighted average risk or return, as well as the convex or concave nature of the graph. According to the research on the behavior of a private person, the risk-return ratio, income, and experience in the market are more determinants of investment decisions than a person’s demographic characteristics (Kannadas S., 2021). Behavioral factors regarding risk perception make the notion of return larger than just a financial concept. For example, the return on investment in the context of quality improvement in healthcare has many beneficiaries and ways of creating value attached to the target function, both financial and non-financial (S’thembele Thusini et al., 2022).

Nowadays, for better investment decision-making, researchers examine a range of risk and return measures, constraints and mathematical models in portfolio optimization research that has advanced far beyond the original Mean Variance Optimization model, or MVO (Mohammed Ziane et al., 2024). The fact that the discipline of modern portfolio theory has led to the introduction of many risk measures, such as the Sharpe ratio, beta, and maximum drawdown and how this complexity will be used in the application of contemporary portfolio theory is shown by such studies. These judgments about what assets are allocated into a portfolio do not occur casually, as normative modern portfolio theory would suggest. According to a meta-analysis of content and behavior written and conducted between the years 2005 and 2019, the top percentage of research in this field is mixed with behavioral finance and presents a new understanding (Gusni & Nugraha, 2021). Furthermore, research on the relationship between security returns and trading volume in the stock, bond, foreign exchange, and futures markets has become increasingly important. This relationship is known as the return-volume nexus (Yamani, 2023).

Investment determinants research identifies several important macroeconomic factors affecting investment returns and flows. Output/national income, public investment, and currency rates are the major determinants of private investments’ performance. Interest rates, credit availability, inflation, international trade, and money supply (Batu, 2016) are considered secondary factors. Behavioral, market-related, financial, and demographic factors influencing individual investment decisions affect the risk-return expectations (Madaan & Singh, 2020).

Inflation, inadequate infrastructure, and fluctuating interest rates reduce FDI inflows, whereas real GDP growth, liberalization, exchange rate depreciation, and trade openness are all positively correlated with FDI flows. Interest rates, inflation, exchange rates, and foreign direct investment are the most crucial macroeconomic factors influencing economic performance in African economies. FDI remains the most important tool in enhancing industrial development and fostering living standards. (Sule, 2024).

C) Relationship Between Risk and Return

The most studied strategy is the Modern Portfolio Theory, based on the Mean-Variance Optimization (MVO). MPT, which is Markowitz’s invention, is actually the cornerstone on which all the rest of portfolio optimization is established (Mohammed Ziane et al., 2024). MPT is based on the risk-reward balance, which is executed due to a set of quadratic objective

participles, designed to “balance” the predicted return on the portfolio. A bibliometric analysis of the investment proved that there is a tendency towards the withdrawal from conservative previous MPT models to more complex ones with machine learning and artificial intelligence. (Preeti Bai Agrawal & Dr Anuradha Samal, 2024).

Recent research proves that judgment regarding the asset allocation of a portfolio is not a passive act due to various empirical and behavioral factors other than fundamental factors affecting investor decisions in the risk and return framework (Gusni Gusni & Nugraha Nugraha, 2021). Where the historical data is deficient, modern advancements include constraints and stochastic variables; however, they counter constraints with alternative risk measures like the Sharpe ratio, beta and maximum drawdown (Mohammed Ziane et al., 2024; Khalid Belabbes et al., 2024). These advancements enhance the manner in which the primary concepts of risk and return in the MPT are integrated in real-life investment allocation.

The Capital Asset Pricing Model (CAPM) remains one of the cornerstone paradigms in finance literature after its development for sixty years. A bibliometric review found that several important areas, including cost of capital, asset pricing, portfolio management, risk management, beta calculation, systematic risk, and value premium analysis, by the return on capital, are still influenced by CAPM. The continued publication and citation trends, as well as the topic clusters, which reflect model development and adaptation over time, underscore that the paradigm is still central.

Arbitrage Pricing Theory (APT) has enabled research to stretch further from traditional CAPM applications to incorporate macroeconomic risk variables and multispectral asset pricing models. To promote insightful investment allocation by academics, policymakers, and investors, 116 articles published in 1976-2019 were systematically analyzed, revealing substantial progress in comprehension of how macroeconomic state variables impact stock market results (Umer Mushtaq Lone et al., 2021). These findings suggest the long-term evolution of risk-return modeling technologies.

“Portfolio optimization, by using Mean Variance Optimization (MVO) models that make use of quadratic objective functions and at the same time find linear constraints, essentially addresses the problem of constructing collections of assets that achieve target expected returns while at the same time minimizing risk.” “Mathematical models enable critical collaboration between risk-return tradeoffs and portfolio constraints.” This field includes a variety of risk and return measures, including such examples as the Sharpe ratio, beta, and the maximum drawdown (Mohammed Ziane et al., 2024). “Recent advancements utilize artificial intelligence and Dynamic runtime optimization to come up with new algorithms to solve uncertain portfolio optimization issues, where security returns are simulated via an uncertain variable because no historical data is available.” (Khalid Belabbes et al., 2024). According to Segun Kehinde Isaac et al. (2023), hedge funds are a dynamic category that uses a variety of techniques to control risk and generate returns. Manager talent, style, and size all have an impact on performance. Market efficiency issues still exist, though, as calendar irregularities and return predictability trends run counter to the Efficient Market Hypothesis, casting doubt on investors' capacity to reliably identify mispriced stocks (M. Rossi, 2016).

In different contexts, the presented articles examine an array of features of the relationship between risk and return: in India, Kannadas (2021) surveyed 201 individual investors in an empiric study and determined that demographic characteristics, such as age and gender, had low effects on investing decisions because the risk-return ratios, income level, and market participation experience played a major role. With respect to risk tolerance and return preferences, for example, behavior varied significantly among short-term and long-term investors. Yamani (2023) conducted a more systemic review of theoretical and empirical studies on return and volume co-evolution in stock exchange, bond markets, foreign exchange markets, and futures markets, establishing a framework for understanding such relationships. Even though Liu & Babar (2024) and Balžekienė et al. (2024) focused on cyber risks and risk perceptions, respectively, each contributed to the pool of knowledge about available risk assessment methods. Although they discussed different environmental issues and the composition of factors affecting risk-return relationships varies, their combined research suggests that investors' profiles, market experience, and behavioral patterns in different financial situations are significant.

D) Valuation in Financial Management

Diverse methods for valuing in various circumstances are revealed by the literature. High levels of uncertainty and risk make valuation techniques difficult for startups. Multiple-based methodologies are emphasized as popular strategies, but getting trustworthy data inputs is still an issue (Silva et al., 2021). Value premium research in equity markets uses a variety of valuation ratios, such as E/P, B/P, D/P, S/P, and CF/P, to compare the performance of value and growth stocks. There is evidence that the optimal criterion changes over time and across markets, and that in certain situations, combining traditional ratios may increase value premium (Pätäri & Leivo, 2017). Valuing intangibles is further complex in its nature; research suggests that “definitions and commonly acceptable valuation methods for particular intangibles must be determined” (Pastor et al., 2017). Furthermore, brand equity valuation is particularly complex due to the absence of common definitions or methods. Depending on the assumptions and settings of the model, customer-based and finance-based approaches yield

different results. (Medhi & Kakati, 2025).

Asset and business valuation is vital to financial decision-making throughout a range of sectors and organizational arrangements. Obtaining reliable information is more challenging when it comes to valuing biological assets in agriculture under IAS 41; although historical cost keeps asset value unchanged, it may be inaccurate, fair cost gets affected by market instability and is questionable in erratic markets (Llerena et al., 2025). For operational, tactical, and strategic decision-making, information management is deemed the main risk element in the production industry: risk sources are numerous, particularly throughout asset management decision-making (Polenghi et al., 2019). Despite the reliability concerns of managerial estimating methodologies and human elements, fair value estimates are progressing in a positive manner and, with an appropriate level of caution, can be utilized in financial decision-making, especially for Level 3 estimates (Šapkauskienė & Orlovskij, 2017). Accounting evaluation is the foundation for strategic decisions, and economic management measures are a critical component of the selection procedure for small and medium-sized enterprises in Ibero-America. (Franco et al., 2021).

There are many different fields and approaches used in the study of value in high-risk and uncertain situations. High levels of uncertainty and risk are present in startup valuation, with multiples-based methods being emphasized as popular approaches. However, finding suitable funding sources is still difficult (Silva et al., 2021). Valuing the agricultural industry has special risks. While historical cost offers stability but does not accurately reflect changes in asset value, fair value measurement offers transparency but causes volatility in erratic markets (Llerena et al., 2025). To handle uncertainty in financial variables like cash flows, interest rates, and time, infrastructure life cycle costing frequently uses fuzzy sets and probability distributions; the most researched topics are cash flows and interest rates (Sun & Carmichael, 2018). Financial risk management in public-private partnerships evaluates risks like high interest rates and rising building costs using methods like Monte Carlo simulation and net present value (Akomea-Frimpong et al., 2020).

E) Risk, Return, and Valuation in Investment Decisions

There are many dimensions of capital budgeting and investment decisions that have been investigated over time. Individual investor behavior is predicted by nothing other than age or gender, but by various demographic, financial, market and behavioral characteristics such as income levels, market experience and returns on risk proportions (Madaan & Singh, 2020; Kannadas, 2021). It is known that capital budgeting research in the last 50 years has transformed dramatically. Inspired by existing systematic reviews, this new study has found four distinct study themes and familiarized the necessity for exhaustive frameworks that integrate antecedents, both correlational and outcome in nature and compensation levels (Sureka et al., 2021). Financial decisions connected to capital budgeting, capital structure, and dividend policies impact a firm's financial health. Investors are separated based on risk appetite, and the types of investors are shifting from a risky base to a less risky allocation in varying ratios and time spans. All these studies support how investors can maximize returns by minimizing risks with the help of good policies and good investment plans.

Capital structure research has evolved significantly, driven by multiple studies examining the relationship between risk, return, and financing decisions across various economic sectors (Sisodia & Maheshwari, 2022). The choice of strategy between dividend payments and share repurchases is just one angle of the complex field. High-growth companies use buybacks to maintain financial leeway and increase earnings per share. Companies with relatively stable cash flows use dividends to ensure income to shareholders (Rahman, 2024). As efficient hedging preserves cash flows, reducing the costs of financial distress, and increasing market value, risk management using derivatives is vital for optimizing the capital structure (Bedi, 2025). According to bibliometric data, capital structure and its determinants are the most interrelated areas of research, with extensive international collaboration between the US and China boosting theoretical and empirical progress (Gajdosikova & Valaskova, 2022). All these studies indicate that capital structure optimization methods and business finance decisions are heavily influenced by the risk-return analysis.

Recent studies on startup and hazardous project valuation suggest that standard valuation techniques are gravely flawed. Therefore, in their comprehensive bibliometric study, Silva et al. (2021) argued that the source of funds is critical for businesses with high uncertainty and revealed that valuation techniques are most commonly used, with multiples-based methodologies being the most commonly used. Silva Junior et al. (2023) also added that investment in startups is challenging and complex, which is why they mapped 14 investment risks of different kinds into four dimensions: external, internal, human, and capital, identifying nine critical hazards and visualizing the connections between them using the A priori algorithm.

One other critical study gap concerns the financial drivers of advanced-stage companies, as well as the lack of utilization of alternative valuation techniques, among other things, the First Chicago, Scorecard, and Berkus methodologies. This was confirmed by Silva and Jucá in (2023). A typical IF-PT-TODIM model for green financing projects, developed by Feng in (2024), allows for a more integrated approach to risky project assessment and evaluation. It was found to perform well in processing fuzzy information and multi-attribute decisions, lowering the risk by 28.14% compared to conventional

equipment. All of these studies indicate the need for multi-dimensionality and complexity in determining the value of risky endeavours.

F) Behavioral Finance Perspective

Much remains to be discovered in the field of behavioral finance. Research has made important strides in explaining how psychological factors influence the level of risk an investor is willing to tolerate and his or her response to certain market scenarios (Mukhtar and Jan 2023). Suggest a more systematic approach to understanding investor behavior, as the Big Five model of personality is of special interest, as reviews indicate that personality traits have a big impact on the level of financial risk tolerance. There are many biases that affect investment decisions; as many as 17 biases have been influencing investors' perception and processing of data (Mukhtar & Jan, 2023). Investor behavior is influenced by demographic factors. Some biases are of an emotional nature, while others are cognitive (Svoboda, 2022). It is known from empirical studies that investing decisions are more influenced by the risk-return ratio, income level, and experience of investors on the market than by age and sex. This means that individual investors have individual levels of risk tolerance that affect investing. These levels include both appetite and capacity for risk.

Key behavioral biases that have a major influence on financial decision-making have been uncovered by recent comprehensive literature reviews. Overconfidence is the most common bias, with a consistent impact on trust attributed to 18 studies, and loss aversion is the fourth most common element with nine studies and the most critical element of aversion biases (Shah et al., 2020; Karki et al., 2024). Additionally, other important biases also lead to heuristic biases, including the herding effects, anchoring bias, and other biases such as availability and representativeness (Shah et al., 2020; Rosyidah & Pratikto, 2022). The biases lead to mixed results of both good and bad outcomes (Shah et al., 2020; Shah & Butt, 2024).: elevated R&D spending and better mental health, cash flow manipulation and reduced shareholder value (Karki et al., 2024). The research offers future opportunities for study in emerging markets, focusing on industrialized countries and a large number of survey-based quantitative research (Rosyidah & Pratikto, 2022; Shah & Butt, 2024).

Much concern and attention have been given to the effect of behavioral biases on financial appraisal and investing decisions in recent systematic literature reviews. "Heuristic bias, self-attribution bias, framing bias, herding bias, aversion bias, disposition effect, and overconfidence bias are the seven major biases from Rosyidah and Pratikto's (2022) 51 papers analysis in 2022". By reviewing 71 peer-reviewed studies, Badola et al. (2023) broadened this scope by identifying 24 distinct biases influencing the decision-making of individual investors and by putting forth an attribute-consequence-impact paradigm to explain investor irrationality. While creating a conceptual model of behavioral biases, Sundavadara & Sanghvi (2024) observed a rise in research interest in behavioral finance between 2011 and 2023, especially in poor countries. By analyzing research from 1974 to 2024, Sharma & Prajapati (2024) divided behavioral biases into seven different categories and emphasized the usefulness of knowing how these biases show up in investment behaviors and influence decision-making processes for investors, advisors, and institutions.

G) Financial Market Factors Influencing Risk and Return

Investor behavior and financial market volatility are impacted by a number of interrelated elements, according to recent systematic research. Despite the contributing findings of the impacts of institutional flow and that of algorithmic trading, the vital factor nudging stock market volatility has always been macroeconomic. The latter includes oil prices, uncertainty of policy, and sentiment of investors, thus (Dhingra et al., 2023). Machine learning research indicates that these factors can be grouped into six categories: news, politics, irrationality, health, economics, and war and fifteen volatility variables were identified (Mansilla-Lopez et al., 2025).

As per investment sentiment analysis, a wide variety of factors, including irrational and rational factors influencing financial markets and Phenomena including (behavior, social media, geopolitics, natural disasters, economics, monetary policy, exchange rates, interest rates, inflation, and government regulation) all keep influencing these factors. Thus, Maurya et al. (2025) report on investors' risk-return expectations and investing objectives, which are influenced by behavioral, market-related, financial, and demographic factors for the individual investment intentions (Madaan & Singh, 2020). The above results illustrate how dynamic and multifaceted financial markets may be.

The recent systematic reviews done on the correlation between macroeconomic variables and financial market performance indicate the existence of recurring trends across many market classes. However, bank stock returns are influenced more by interest rates and exchange rates (Aleena Joseph et al., 2024). There have been several investigations done on how other factors like monetary policy, gold prices, and oil prices influence these effects, and all the variables are still unclear. Generally, while gold prices have adverse effects and interest rates have effects depending on the economy's development level, other comprehensive market investigations have indicated that GDP, foreign direct investment (FDI), and foreign institutional investment have positive effects on both the developed and emerging stock markets (Verma & Bansal, 2021).

Leverage and other macroeconomic variables affect the systematic risk of common stocks: company size moderates the effects, whereas profitability mediates them (Siriwardena et al., 2025). Moreover, market sentiment and fundamental indicators, when combined, also influence stock valuation, and the latter frequently leads to divergences from actual fundamental values. (Hafidz, 2025).

In times of crises, there is a huge surge of financial market volatility; the 2008 global financial crisis and the COVID-19 pandemic are among the major disruptions to the global economy (Goyal & Soni, 2024). The 2008 credit expansion crisis, the 2008 high leverage in the system, and insufficient capital funding, as well as adequate penetration of liquidity buffers, triggered global reactions by different regulators at different paces in their respective countries (Zéman et al., 2018). Hedging and diversification are examples of traditional risk management strategies that work well in stable situations but fall short when it comes to handling complicated contemporary threats (Rehman et al., 2024). Even though various concerns, such as pricing, regulation, and cybersecurity, are present, contemporary AI-based solutions offer potential. Specifically, “AI-based credit risk models can bring about a decrease in non-performing loans by 20% (Rehman et al., 2024). The affirmation regarding the interconnectedness of economic, political, and sociological components during crises accentuates the importance of policymakers strengthening financial systems and increasing global financial resilience, as “the economic breakdown leads to the social and political collapse”. (Γκουρνέλου, 2021).

H) Emerging Trends and Innovations

The following study demonstrates recent trends and challenges in risk analytics and fintech. The analysis reveals that although the use of AI-based risk management has its downsides associated with ethical application, data privacy and security, and possible bias, this kind of technology has become a game-changer in the fintech industry. AI uses complex algorithms and machine learning to identify and manage risks (Benediktus Rolando & Herry Mulyono, 2024). For the most part, due to growing digitalization, specifically, investments are growing rapidly and becoming more widespread internationally. The fintech spectrum includes major progress in payment, funding, managing assets, and insurance (Mansurali Anifa et al., 2022). Fintech is substantially enhancing financial inclusion in underbanked and unbanked areas; nevertheless, it also comes with significant risks, including sociocultural challenges, digital literacy, data protection, and regulatory risks. In the context of the present research, the following major themes demonstrated the demand for further study in real-world usage: blockchain, AI, P2P lending, and infrastructure. (Abdul Hakim Satria Nusantara et al., 2024).

Recent studies suggest that the significance of ESG concerns for financial performance and investment decisions has become common knowledge. Research shows a positive correlation between high ESG scores and well-above-the-market long-term financial returns, even during pandemics like Covid-19 (Juthi et al., 2024). Environmental variables, which have a particularly strong influence on the business of highly risky industries such as manufacturing, energy, etc., have forced companies with good ESG policies to improve risk management capacity and financial resilience (Juthi et al., 2024). With an approximate annual growth rate of 30%, the area is constantly evolving as part of a trend from traditional social responsibility to comprehensive ESG integration. Strong governance practices, including a diverse board and strategic ESG integration (Tripathy et al., 2025). There are some factors that contribute to improved performance and business profitability (Ed-dafali et al., 2024). At the same time, the industry is marked with major problems of measurement harmonization, legal fragmentation, and the quality of ESG data (Yunus & Nanda, 2024). More precise and real-time ESG risk assessment is already facilitated by AI and machine learning technology, whereas standardization of social and governance metrics is still far from achievement (Juthi et al., 2024).

A systematic review study identified the major areas of research, including asset allocation strategies, crypto-based indexing methods, speculative bubble discussions, and developing valuation models that focus on market potential and hazards in light of shifting market conditions, unveiling notable advancements in bitcoin and digital asset value (Siang-Li Jheng et al., 2025). The United States approved Bitcoin and Ethereum ETFs in 2024. Following political developments, Bitcoin surpassed \$100,000, which the Securities and Exchange Commission called a milestone in popular usage (Siang-Li Jheng et al. 2025). (Siang-Li Jheng et al., 2025; Hossain, 2021).

In 2017, a marked rise in the rate of growth of research on emerging research hotspots, which include blockchain technology, smart contracts, and financial market integration (Saikia et al., 2024). Several consistent challenges hinder cryptocurrencies' recognition as an investment asset: high volatility, scarce regulation, potential for illicit misuse, and information security requirements (Corbet et al., 2018). Yet digital assets recover spectacularly after many of the market falls, and considerable investment and academic concern have been sustained (Siang-Li Jheng et al., 2025).

Since applications of machine learning in financial risk prediction have rapidly increased, researchers are focusing on the following fields: credit risk assessment, stock market forecasting, and financial30 distress prediction. The predominant application area of financial risk prediction is credit risk assessment, and the predominant family of machine learning models is boosted algorithms. Such models are then examined and compared using the F1-score, accuracy, recall, and AUC estimation

(Noriega et al., 2023). Nonetheless, there are still problems with data imbalance, feature selection difficulty, and interpretability of black box models (Noriega et al., 2023). There is news-based market prediction as another developing trend, and the adoption between 2018 and 2021 increased among artificial neural networks (Ashtiani & Raahemi, 2023). Recurrent neural networks and deep learning models emerged. Likewise, ensemble approaches with multiple algorithms have significantly advanced Stock price forecasting, achieved by having deep learning models that process more extensive datasets perform the tasks more efficiently (Sonkavde et al., 2023). Moreover, the application of AI in predicting financial distress continues to progress. Therefore, one has to keep adding new variables and making models more interpretable (Duarte & Barboza, 2020).

I) Risk–Return–Valuation Framework in Agribusiness

Because agricultural investment is vulnerable to significant risks that affect value and returns, complex frameworks may also be required to evaluate it. “Price volatility is a major problem because price swings are so drastic that all parties in the food value chain are affected”, and sustainable production remains an issue (Mustafa et al., 2023). “Climate and sociopolitical concerns complicate investment decisions, and evidence-based approaches that can handle unpredictability and scarcity of data are necessary (Yet et al., 2020). In this context, Bayesian Networks present a promising opportunity for evaluating agricultural projects as they can be utilized to forecast return on investment and net present value under different risk scenarios by integrating readily available data with expert knowledge (Yet et al., 2020).

(Brenya et al., 2022) Concluded that investment risks combined with sustainability limits such as poor financing, post-harvest losses, gender inequalities, and lack of institutional enforcement are concomitant and also interact. In order to address food security and system sustainability, the interconnected multivariable resources and conduct levels demand complex analytical frameworks (Usha & Devakumar, 2018). Business models, innovative technologies, and entrepreneurial qualities have a significant role to play in the sustainability of agriculture on the grounds that they affect the prospects of enterprise.

There are several impediments to agribusiness enterprise sustainability and assessment that merit rigorous risk-return frameworks. IAS 41 biological asset valuation is complex; historical cost provides stability but may not accurately reflect entity value modifications, and the current cost entails more transparency and ensures in returning markets, uncertain behaviour for increased volatility (Llerena et al., 2025). Furthermore, the long-term potential of agribusiness remains associated with three major elements: innovation/technology, business models, and entrepreneurial competency (Usha & Devakumar, 2018).. Despite these success drivers, sustainable agribusiness growth is limited by critical obstacles such as financial accessibility, high post-harvest losses, gender division, and non-climate (Adiyono et al. 2022). These results underline the necessity for unified agribusiness enterprise frameworks that include risk management, sustainability measures, barrier reduction, and evaluation precision.

Investment in agribusiness and risk-return analysis reveal significant challenges and analytical approaches. In this regard, Yet et al (2020). developed a Bayesian Network technique to evaluate agricultural development projects in uncertain contexts characterized by climatic and sociopolitical risks. The methodology includes net present value and return on investment. Other studies uncover gender inequality, high postharvest losses, the absence of institutional interventions, and inadequate financial assistance as major obstacles to sustainable agricultural activities (Brenya et al., 2022). Usha & Devakumar (2018) present a conceptual framework postulating three critical factors contributing to the formulation of a coherent approach to agricultural sustainability: innovation/technology adoption, business models, and entrepreneurial competency. Moreover, in their extensive evaluation, Bannor & Arthur (2024) identified five main shortcomings in agricultural performance in developing countries, including technology adoption, female involvement, business management skills, and youth engagement. Together, these research findings illustrate the need for holistic risk assessment frameworks accounting for sustainability aspects and financial metrics in assessing agribusiness investments and the performance of cooperatives.

III. RESULTS AND DISCUSSION

Risk, return and valuation are the mutually dependent concepts shaping the field of financial performance and decision making, respectively. Over the last decade, risk management has emerged as the key concept underpinning financial sustainability. Research indicates that firms encounter a diverse range of financial risks, which can be categorized as operational, credit, market and liquidity risks, which may trigger fluctuations in investment and growth stability (Takdirmin et al., 2025; Muhammad Fahrul & Rusliati, 2016). Such a transition from the conventional use of diversification and hedging to data-led decision making and prediction-based forecasting and tools such as Value at Risk, Monte Carlo Simulation (VaR), and risk modeling with AI indicated how risk and uncertainty had become an inherent part of modern finance.

The recent studies of return measurement show that investors have always structured acceptable risk levels around expected returns by utilizing frameworks like the Capital Asset Pricing Model (CAPM) as well as Modern Portfolio Theory (MPT). Human psychology has demonstrated a substantial effect on investment performance in modern history. Behavioral

features such as herding conduct, loss (Mohammed Ziane et al., 2024; Santosh Kumar et al., 2023). Moreover, overconfidence has emerged as a critical predictor of return variability. (Zahera & Bansal, 2018; Shah et al., 2020).

While the findings suggest that conventional approaches to valuation, such as Dividend Discount Models (DDM) and Discounted Cash Flow (DCF), may still be relevant, fresh methods comparable to the existing ones should be developed to incorporate uncertainty in the developing industries. As confirmed by Silva et al (2021). And Llerena et al. (2025), there is no doubt that the existing body of evidence on valuing startups is demonstrating the theoretical disadvantages of applying AI-based models to value startups, as well as intangible assets and agriculture firms, given the high volatility of the market and the shortage of data. Moreover, the way businesses understand value is changing as a result of introducing AI-based models into the valuation stream, combining them with ESG in connection to innovation and sustainability.

Furthermore, the impact of macroeconomic factors and financial markets on risk and return was also identified. Indeed, the volatility in GDP growth, inflation, interest rates, and currency prices was found to influence the outcomes of risk and return (Verma & Bansal, 2021). Finally, the traditional concepts of risk prediction and asset valuation are being redefined due to the progress in fintech, blockchain, and cryptocurrencies. Hence, the future of financial systems and frameworks is faced with new opportunities and challenges.

Overall, the review's findings highlight the necessity of combining conventional theories, behavioral insights, and cutting-edge analytics for efficient financial management. Better risk prediction, precise valuation, and optimal investment returns are guaranteed by this multifaceted strategy, which eventually improves decision-making and financial sustainability.

IV. CONCLUSION

The review demonstrates that risk, return, and value are the three pillars of stable financial management and investment selection. However, the laws of valuation continue to change in the light of market uncertainty, sustainability worries, and pervasive technological change. Although the use of ESG frameworks, artificial intelligence, Fintech, and other contemporary approaches is rapidly growing, value still changes due to the interaction between available cash flow, corporate sustainability, and market ever-changing prices. In the light of the ongoing socio-economic and environmental changes, the value factor is determined as the adaptive relationship between the static cash flow and dynamic market prices, changing capitalism's update. Agile financial management reflects a change from the traditional control system to an adaptive, data-driven, and sustainability-focused approach (Bandera & Macaumbao, 2025). Finally, this analysis stresses the need to approach financial management as a comprehensive, data-and behaviour-driven area in the light of the dynamic progression in the world.

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