

A Comparison between Estimating the Required Rate of Return in Market Value and Within the Framework of (ROI) and its Impact on the Fair Value of Shares - A Comparative Study of Iraqi Industrial Companies for the Period (2015-2024)

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Abstract: This research aims to assess the effectiveness of using the book value and market value frameworks to estimate the implied required rate of return (Ke), examining their subsequent impact on determining the fair value of common stocks and comparing their effects. Traditional valuation models, primarily based on the Capital Asset Pricing Model (CAPM) and market-based metrics, often suffer from increased volatility and conflicting prices in public stock markets. This distorted environment negatively impacts the reliability of cost of equity estimates. To address this vulnerability, this research shifts its analytical focus to a data-driven framework for a group of 10 Iraqi industrial companies over the period 2015-2024. This framework applies the best solutions and models to support the implied rate of return (RM), specifically using the return on investment (ROI) of the companies in the research sample and comparing it to the same implied ROI using earnings per share (EPS) for the same companies over the same period (book value and earnings). The goal is to determine the best approach for estimating the required rate of return and its role in the fair value of the stock, while also controlling for the degree of systematic risk, company size, and earnings quality to understand the direct impact of the two models. Their impact on the accuracy and comparability of fair value. Through periods of macroeconomic distress or systemic market shocks, the first model framework provides a more stable and reversible required rate of return compared to the second model. Consequently, derived fair values exhibit a tighter convergence with long-term intrinsic values, effectively reducing valuation errors resulting from market movement. The analysis highlights a critical gap in the valuation literature by demonstrating that accounting metrics are not merely retrospective reporting requirements, but rather structural anchors capable of stabilizing equity valuations. Its most important findings have profound implications for institutional investors, financial analysts, and regulatory bodies seeking robust valuation methodologies less susceptible to anomalies in temporary market movements.

Keywords: Book value, Market value, Fair value, CAPM model.

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INTRODUCTION

The valuation of nominal securities remains a cornerstone of financial economics; however, the methodology used to minimize expected future cash flows or earnings continues to generate intense debate among both academics and practitioners. Traditionally, the capital asset pricing model (CAPM) and its subsequent multi-factor extensions have dominated the empirical literature as standard mechanisms for estimating the required rate of return (K_e). However, these market-driven models are inherently tied to general market prices, making them highly susceptible to systemic shocks, behavioral biases, and transient fluctuations. When market efficiency is affected, equity cost estimates derived from stock prices often misrepresent the underlying risk profile of the firm, leading to distorted fair value valuations. To mitigate this empirical fragility, a growing body of literature has sought alternative stabilization mechanisms within the field of accounting. This research addresses this pivotal issue by shifting the analytical focus toward the framework of the implied book value of the model. By activating financial metrics based on The balance sheet and income statement framework offers a structurally stable alternative to market-based discount rates. At the heart of this approach is the recognition that book value and excess accounting gains can be used to offset the implied cost of capital, thus mitigating the short-term downsides of trading. While previous research has extensively documented the "importance of book value" (Olson, 1995; Bart *et al.*, 2001), a significant empirical gap remains. Specifically, current literature often treats book value as a passive metric for equity valuation rather than an active structural framework capable of calibrating its own required rate of return. This research directly addresses this gap. It focuses on how the implied required rate of return, accurately estimated within the book value framework, becomes a more accurate and stable indicator of equity fair value, particularly during periods of macroeconomic stress. In doing so, this research contributes to bridging the gap between accounting and finance by demonstrating that financial statements possess intrinsic future-oriented capabilities that extend beyond theoretical compliance reports to the past.

The Capital Asset Pricing Model (CAPM) was used in two forms. The first was to achieve the market return (RM) by using the rate of return on investment in the equation, which is used for the study sample and for the time period as an investment portfolio, and then calculating it within the CAPM model to extract the required rate of return, and it was given the symbol (RB). As for the second model, the original model was used with an implicit rate of return (RM) for an investment portfolio of earnings per share for

the same sample and time period to compare between them to know the degree of profitability and risk in estimating the investment and the required rate of return by the investors.

First: Scientific Methodology:

1. Research Problem:

The main experimental problem in this study lies in the structural instability of market-paid discount rates when determining the fair value of shares. For decades, traditional financial theory has relied on market measures, particularly the Capital Asset Pricing Model (CAPM), to estimate the required rate of return (K_e) (Al-Iraqi & Majid, 2022:320). However, modern capital markets are increasingly characterized by high volatility, conflicting movements, and financial anomalies that disconnect stock prices from corporate fundamentals. When K_e is derived from opaque market prices, the resulting cost of equity is distorted, leading to highly inaccurate pricing and irregular estimates of the fair value of common stock. This study addresses a pivotal problem: to what extent can an alternative accounting-based framework, specifically the book value framework, provide a more stable and fundamentally driven required rate of return, and how does this alternative measure reshape the accuracy and convergence of the fair value of equity? The problem is further compounded by the current lack of empirical consensus on whether book figures are capable of filtering out market movement and reliable equity valuation activity (Mathews, 2022:863).

2. The Importance of the Research:

The importance of this research is divided into theoretical importance: This study develops the literature related to value by transforming the role of the book value framework from a passive valuation standard to an active operational tool for discounting risk. It embodies a crucial conceptual gap between financial accounting (book value, earnings, and market value) and the precise structure of the market (fair value discovery). As for the practical importance: In an era of economic instability, financial analysts, institutional asset managers, and institutional appraisers need valuation models that do not succumb to market pressure by demonstrating the usefulness of the required rate of return paid with book value. This research provides practitioners with a counter-analytical tool for evaluating the fair value of stocks, thus improving the efficiency of capital allocation and mitigating risk management.

3. Research Objectives:

To systematically dismantle the research problem, this research aims to achieve the following specific objectives: to activate an accounting based framework capable of extracting a required implied

rate of return, using book values and expected earnings without changing the market price; to evaluate the impact of the required rate of return paid by book value on the estimation of the fair value of common stocks directly; and to analyze the stability and predictive accuracy of fair values derived under the book value framework compared to those generated by traditional market-based models such as CAPM across different market cycles.

4. Research Hypotheses: Based on the theoretical background and research objectives, we test the following research hypotheses:

H1: The required rate of return (RRR) estimated under the book value framework directly affects the determination of the fair value of common stock.

H2: The required rate of return (RRR) estimated under the book value framework has a more positive impact on the stability and alignment of the fair value of stocks than the required rate of return under the market value framework.

H3: Stock valuation models that use the required rate of return paid from book value exhibit significantly fewer pricing errors (deviations from fair value) during highly volatile market systems compared to market-driven valuation models.

H4: There is no convergence in calculating the gap between the required rate of return from book value and the required rate of return from market value in their impact on the fair value of a stock.

5. Methodological Design and Temporal and Spatial Boundaries of the Research:

This research uses a quantitative deductive design using economic data for a group of Iraqi industrial companies in the Iraq Stock Exchange for the period (2015-2024). Some industrial companies are deliberately excluded due to asymmetric financial leverage files and their organizational handling of the book value of shares. Companies with missing financial data or negative book values are reduced to eliminate survival biases and data entry.

Second: Previous Studies:

1. Easton's 2004 study, titled "PE ratios, PEG ratios, and estimating the implied cost of capital on equity capital," aimed to test the reliability of implied cost of equity estimates derived from accounting models based on book value and expected earnings, compared to traditional models based on market beta (CAPM). By testing the models on a wide sample of companies in financial markets, the study concluded that implied required rates of return based on accounting fundamentals provide more consistent and stable estimates of companies' operational risks. The results confirmed that relying on discount models based on book value and

earnings growth significantly reduces trading activity, thus giving financial analysts a superior valuation tool in environments characterized by stock price volatility.

2. The study by Botosan & Plumlee (2005), titled "Assessing alternative proxies for the expected cost of equity capital," evaluated and compared five alternative models for measuring the expected cost of equity (two based on the capital asset pricing model and the other two on the residual income and book value framework). The field results showed significant deviations in the market models due to the sensitivity of the beta coefficient to short-term price changes. In contrast, the models derived from book value and retained earnings proved superior in providing an implicit discount rate (K_e) that is structurally related to the risk of corporate bankruptcy and levels of financial leverage, making them a structural anchor capable of stabilizing equity valuations.
3. A study (Al-Hares *et al.*, 2012): The value relevance of book value and earnings in emerging markets during crisis periods. This study examined the impact of using accounting standards based on book value in estimating the intrinsic and fair value of stocks in emerging financial markets in the Middle East, specifically during periods of crisis and economic hardship. The study concluded that book value acts as a shock absorber during periods of systemic shocks and liquidity declines, as valuations derived from book value showed a stronger and tighter convergence with long-term intrinsic values compared to market prices distorted by panic buying and irrational trading.
4. The study (Frank and Shen, 2021) (Book Value, Residual Income Models, and the Implied Cost of Equity in Volatile Markets) addressed the ability of the Residual Income (RIM) model based on book value to absorb price shocks and restore fair valuations of stocks. The study showed that relying on book value as a structural anchor contributes to significantly reducing valuation error during periods of economic uncertainty, where direct market indicators fail to reflect the true value of companies.
5. A study (Ball, *et al.*, 2022) entitled (Earnings, Book Values, and the Cost of Capital in Emerging and Developed Markets) compared the performance of accounting measures based on net book assets with measures based on price movements in emerging and developed markets. The researchers concluded that emerging

markets suffer from high trading volumes that distort beta coefficients and market-dependent cost of capital, while the book value framework provides a more stable and countercyclical required rate of return, which enhances the accuracy of long-term fair value estimation.

Third: Theoretical Aspect:

1. The Required Rate of Return According to Market Value:

These markets are characterized by low liquidity, high levels of noise and temporary volatility, as well as their exposure to irregular macroeconomic shocks. In light of this fragility, a modern academic trend has emerged that adopts a framework of historical and projected accounting data (represented by the book value of earnings and shares) to construct an implied rate of return as a more stable and countercyclical alternative to market indicators that fluctuate (Flaifel & Al-Rubaie, 2022:46). Traditional models for constructing the cost of equity rely on the assumption of market efficiency at a strong or near-strong level. However, modern behavioral finance theory shows that short-term stock prices are subject to herd behavior and irrational polarization (Xu *et al.*, 2023:2).

- This behavior translates into fluctuations in the beta (β) coefficient and the maximum market risk premium.
- This results in an unreal required rate of return that does not reflect the company's operational or fundamental risks, but rather temporary changes in investor sentiment. It is measured using the following formula:

$$CAPM = R_{rf} + (R_M - R_{rf}) * \beta \dots \dots (1)$$

CAPM represents the required rate of return at book value., R_{rf} : Risk-free rate of return., R_M : Market return., β : Represents the degree of risk.

2. The Required Rate of Return According to Book Value:

The required rate of return based on book value is based on the principles of "fundamentals-based valuation." This framework views the cost of equity (K_e) not as a dynamic variable that is rapidly affected by instantaneous price changes in the market, but rather as a discount rate that reflects the expected return that the investor demands in return for investing his money in the company's real net assets (Al-Khafaji, 2026:60).

Unlike traditional models calculated from price and market movements such as the CAPM model, this approach is based on the fact that stock prices may deviate from their intrinsic values for extended periods due to speculative behaviors, psychological biases, and liquidity waves.

Accordingly, deriving the discount rate directly from historical and expected accounting data, represented by the book value of assets and the profits generated from them, provides a stable structural anchor that reflects the true operational capacity of the institution (Al-Amiri, 2013: 348).

The mathematical formula: Book-value-based required return models are typically derived based on the model developed by Feltham & Ohlson (1995), as well as the book-value-based earnings growth model (Ohlson & Juettner-Nauroth, 2005).

This model is based on the fundamental fairness of accounting valuation:

$$CAPM = R_{rf} + (R_B - R_{rf}) * \beta \dots \dots (2)$$

Where: CAPM represents the required rate of return at book value., R_{rf} : the risk-free rate of return., R_B : the market return at (ROI), β : represents the degree of risk.

3. Structural and Behavioral Characteristics of the Model:

It has a set of structural advantages that make it superior to market metrics (Vernimmen, *et al.*, 2018:328):

- Reversal and anticyclical dynamics: During economic crises and systemic shocks, market share prices fall sharply, excessively and misleadingly raising the cost of ownership derived from the market. In contrast, book value is based on historical cash flows and stable asset positions, giving companies a stability that absorbs temporary shocks.
- Reducing trading valuation errors: This approach isolates valuation errors caused by low stock liquidity, speculative practices, or momentary rumors, as it requires the discount rate to be linked to the actual productivity of operating assets.
- Direct link between operational performance and evaluation: The accounting standard ensures the exclusion of profits from discontinued groups or non-operational shocks, transforming the required rate of return into a measure of leadership efficiency in managing invested capital (Houa, *et al.*, 2012:505).

4. The Implied Return Framework Based on Accounting Data:

This framework is based on breaking down the relationship between the book value of shares and expected profits on the one hand, and the prevailing price on the other, to assess the return that determines the gap between them.

- The discount rate here is derived from the residual profit model or the earnings growth model based on book value.

- Recent financial literature demonstrates that book value acts as an absorption buffer, as it arises from actual operating cash flows and

accounting adjustments governed by International Financial Reporting Standards (IFRS).

5. Comparative Dimensions: Book Value (ROI) vs. Market Value

Concept/Axis	Market Value	Book Value
Data Sources	Daily Trading, Price Movements, and Market Transactions	Financial Statements, Net Assets, and Retained Earnings
Shock sensitivity	Very high, affected by extreme fluctuations and immediate volatility	Low, characterized by long-term inductive stability
Cyclical behavior	(Pro-cyclical) enhancing economic cycles	(Counter-cyclical) opposing or neutral to cycles
Fair Value Accuracy	Reflects instantaneous exchange value (which may be unrealistic)	Approaches intrinsic value structurally

Source: Prepared by the researchers based on previous literature.

6. Strategic and Applied Importance:

Advanced financial research confirms that adopting the book value framework creates a fundamental solution to valuation problems in high-risk environments (such as the Iraqi Stock Exchange) (Flaifel, Al-Rubaie, 2022: 94-99) (Hkiri, *et al.*, 2021:2):

- Addressing the problem of low or no liquidity: The lack of regular daily trading of many companies' shares makes beta (β) estimates inaccurate or biased towards zero. Book value completely overcomes this obstacle, as it is calculated from reliable internal figures.
- Predictive stability of fair value: Discounting substantial future cash flows using book value results in a true fair value with fewer standard deviations compared to values derived from highly volatile market discount rates. This increases the predictive reliability of future stock performance.
- Serving stakeholders: This approach provides robust valuation tools for institutional investors and financial analysts to mitigate valuation errors caused by short-term fluctuations, as well as providing regulators with a structural benchmark capable of stabilizing industry valuations during times of crisis and financial distress.
- For institutional investors and financial analysts: Providing a robust valuation tool that reduces valuation errors caused by irrational short-term stock price movements, thus protecting long-term investment portfolios.
- For regulatory bodies and financial markets: Assurances that historical and future accounting reports provide benchmark points capable of stabilizing industrial sector valuations, especially during times of crisis and financial distress.

7. Fair Value of Shares:

According to the International Financial Reporting Standards (IFRS 13) framework and recent financial publications, the fair value of a share is defined as "the price that could be received for the sale of an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date under prevailing market conditions." From an economic and financial perspective, fair value represents an independent, unbiased, and non-crunchy estimate of the future cash and operating flows that a share is expected to generate over its useful life, discounted at a rate of return that reflects the firm's risk structure (Maktoumi, 2026: 50-53), Fair value differs substantially from two common concepts:

- Market price: This is the instantaneous exchange value realized on the trading floor, which is often affected by immediate liquidity, speculation, and market uncertainty.
- Intrinsic value: This is the analytical value based on an evaluation of all the company's fundamental, operational, and strategic factors. In advanced financial valuation literature, fair value is considered the closest financial and procedural representation of this intrinsic value (Al-Amiri, 2013: 510).

8. Determinants of Fair Value Accuracy in Inefficient Markets:

Academic studies published in international journals agree that the calculated fair value is not a fixed absolute value, but rather an estimate closely related to the integrity and reliability of two basic inputs (Hong, *et al.*, 2023:2):

- Accuracy of forecasting accounting profit flows: The fair value account is affected by the level of earnings management and accounting manipulations; the higher the quality of earnings and the more the principle of financial conservatism is

applied, the closer the estimated fair value is to the economic reality of the company.

- **Stability of the Discount Rate Used:** Recent literature shows that valuation errors primarily result from the use of highly volatile market discount rates. Therefore, using a stable required rate of return derived from accounting fundamentals and book value provides a safety valve that ensures fair value converges with long-term intrinsic value, thus achieving valuation stability that serves both institutional investors and regulators (Burgess & Zerbe, 2013:393). The current study adopted an adjusted fair value index for the stock that aligns with the characteristics of Iraqi industrial companies and aims to overcome some of the practical limitations of the traditional dividend discount model, particularly those related to growth stability and dividend regularity (Damodaran, 2012:324). This indicator is measured according to the following formula:

$$\frac{D}{1+k_e} + \frac{P_n}{1+k_e} = P_0 \dots\dots\dots(3)$$

Where: P₀: Current share price., k_e: Required rate of return., D: Dividend payout.

Fourth: Practical Aspect:

1. Analyzing the relationship between the book value and fair value capital asset pricing model for Iraqi industrial companies (2015–2024): The relationship between the required rate of return, calculated using the capital asset pricing model (CAPM), and fair value is a key focus in financial literature. This relationship is mathematically and theoretically based on discounted cash flow (DCF) and dividend discount (DDM) models. The required rate of return represents the cost of equity (K_e) at which the horizon of expected future cash flows for each company is discounted. According to stable financial theory, the required rate of return is determined by the equation CAPM = R_{rf} + Beta * (R_B - R_{rf}), where R_{rf} represents the risk-free rate of return, Beta represents systematic market risk, and R_P is the market return at book value. Therefore, the assumed relationship between the required rate of return and fair value is inverse; a higher discount rate automatically reduces the present value of cash flows, and consequently, the fair value of the stock.

Figure (1) below illustrates the concurrent behavior of the fair value (F.V) variable versus the required rate of return (CAPM) across the years of study:

Table 1: Time series for Iraqi industrial companies for the period (2015-2024):

year	Beta	RRf%	Market return (RB)%	CAPM%	F.V
2015	0.266035	5.50	4.019	5.106	2.825
2016	0.266035	4.50	3.279	4.175	4.141
2017	0.266035	2.50	1.831	2.322	3.217
2018	0.266035	2.90	2.122	2.693	3.374
2019	0.266035	3.00	2.206	2.789	3.886
2020	0.266035	3.00	2.192	2.785	5.263
2021	0.266035	3.00	2.196	2.786	4.830
2022	0.266035	3.50	2.556	3.249	3.527
2023	0.266035	7.50	5.435	6.951	4.412
2024	0.266035	4.00	2.909	3.710	4.087

Source: Prepared by the researchers based on the financial analysis of the research sample.

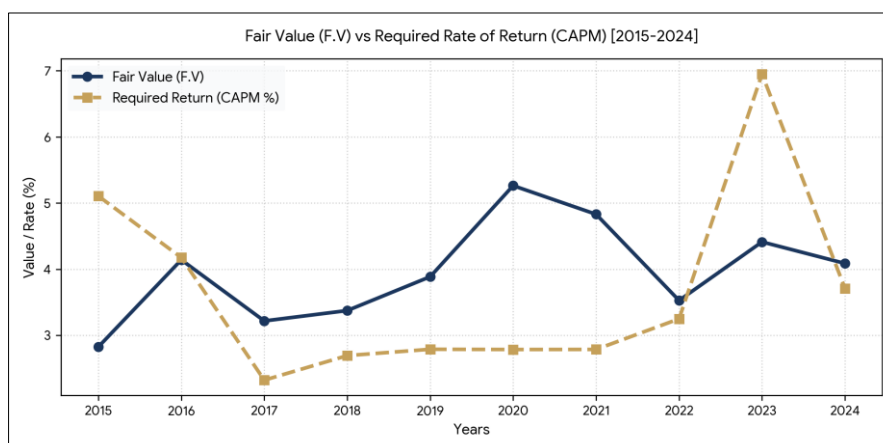


Figure 1: Comparative trend between fair value and required rate of return during the period 2015–2024

Source: Prepared by the researchers based on the data in the table.

The data and the stability of the beta coefficient at (0.266035) indicate that the sensitivity of industrial stocks to systematic risk remained low and stable, meaning that the movement in the required return was entirely caused by macroeconomic variables and RP. During the years (2015–2020), the CAPM rate recorded a continuous decline from 5.11% to 2.78%, and the fair value responded upwards, rising from 2.825 to reach its highest level in 2020 at (5.263). This perfectly reflects the decrease in the discount cost, which raises the value of assets. In 2023, the risk-free return rose to reflect the revaluation of monetary policy and the exchange rate, and CAPM jumped to its peak at (6.951%). Despite the sharp rise in the discount rate, the fair value did not collapse but recorded (4.412). This is explained by the fact that in high inflationary environments, companies' nominal operating cash flows grow as a result of higher product prices, which

compensates for part of the negative impact of higher discount rates.

2. Analysis of the relationship between the required rate of return at market value and the fair value of the stock. The required return is determined by the formula, $RR_f + (RM - RR_f) \times \text{Beta}$. In the sample under study, the data showed that the Beta coefficient reached a very small negative value (-0.0017), which financially indicates almost complete independence of the returns of these stocks from the fluctuations of the overall market returns (RM), which made the risk-free rate of return (RRf) the main driver and control of the cost of ownership. According to stable financial theory, the relationship between the discount rate and fair value is supposed to be an inverse relationship; a high required rate of return leads to a decrease in the present value of future cash flows, and thus a decrease in the fair value of the stock.

Table 2: Data on the required rate of return with its variables and fair value for the period 2015 to 2024

year	Beta	RRf%	Market return (RM)%	CAPM%	F.V
2015	-0.0017	5.50	-0.960	5.509	2.825
2016	-0.0017	4.50	2.509	4.508	4.141
2017	-0.0017	2.50	-0.389	2.504	3.217
2018	-0.0017	2.90	1.893	2.905	3.374
2019	-0.0017	3.00	-11.828	3.005	3.886
2020	-0.0017	3.00	-7.334	3.005	5.263
2021	-0.0017	3.00	0.441	3.005	4.830
2022	-0.0017	3.50	2.566	3.506	3.527
2023	-0.0017	7.50	0.842	7.513	4.412
2024	-0.0017	4.00	0.602	4.007	4.087

Source: Prepared by the researchers based on the financial analysis of the research sample

Figure 2: illustrates the movement of both the required rate of return and the fair value of the stock over ten years

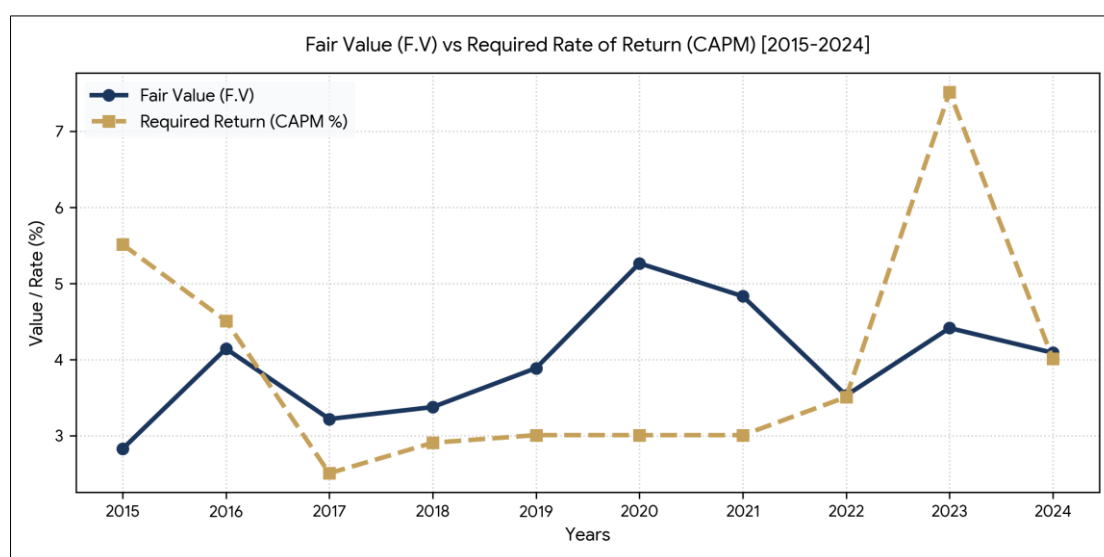


Figure 2: Represents the movement of the required rate of return and the fair value of Iraqi industrial companies (2015–2024)

Source: Prepared by the researchers based on data from Iraqi industrial companies

According to the data in Table (2), the beta coefficient remained constant at (-0.0017) throughout the study period. This leads to a significant financial consequence: the market risk premium (RM - RRf) was virtually eliminated, and the CAPM became almost equal to the risk-free rate of return (RRf). Therefore, changes in the discount cost were not driven by internal corporate conditions but rather by macroeconomic monetary policies and government interest rates. Between 2015 and 2020, the required rate of return declined from 5.509% to 3.005%. In response to this decrease in the discount cost, the fair value of the stock rose from 2.825 in 2015 to a high of 5.263 in 2020. This pattern supports the inverse financial hypothesis: a lower discount rate enhances the present value of future cash flows.

In 2023, the Iraqi economic environment witnessed a sharp rise in the risk-free interest rate (RRf = 7.5%), which pushed the required return to its peak at 7.513% and the fair value rose to 4.412 compared to 3.527 in 2022. This is explained by the fact that the fair value is calculated based on operating cash flows whose nominal figures are inflated with the rise in prices of industrial products, which compensates for the increase in the discount rate and prevents a decrease in the value of the stock.

Analyzing the comparative relationship between the required rate of return at book value (RB) and the rate of return at market value (Rm) and their impact on the fair value of a share. The valuation gap between book and market returns is a key driver in determining share pricing and fair value. The rate of return at book value (RB) represents the company's internal accounting performance relative to historical equity, while the rate of return at market value (Rm) reflects the discount rate expected by investors, including a market risk premium.

According to the discounted cash flow (DCF) model and the Ohlson residual profit model, the market return (Rm) is used as the discount rate for future benefits. An increase in Rm means a rise in the cost of equity, which exerts downward pressure on the fair value of the stock under normal circumstances. The following table illustrates the numerical movement and calculation of the spread between the rates of return and fair value.

Figure (3) represents the regular movement of the required rate of return with fair value and the nature of the structural parallelism between the rates and the interaction with fair value:

Table 3: Movement of the required rate of return and the fair value of the share for the period 2015-2024

Years	RB(%)	Rm (%)	The difference (Spread %)	(F.V)
2015	5.105870	5.509388	0.403518	2.825
2016	4.175091	4.507625	0.332534	4.141
2017	2.321910	2.504266	0.182356	3.217
2018	2.692922	2.904909	0.211987	3.374
2019	2.788642	3.005313	0.216671	3.886
2020	2.784917	3.005237	0.220320	5.263
2021	2.786183	3.005104	0.218921	4.830
2022	3.248897	3.505920	0.257023	3.527
2023	6.950641	7.512765	0.562124	4.412
2024	3.709756	4.006805	0.297049	4.087

Source: Prepared by researchers based on comparative financial analysis of required rate of return and fair value.

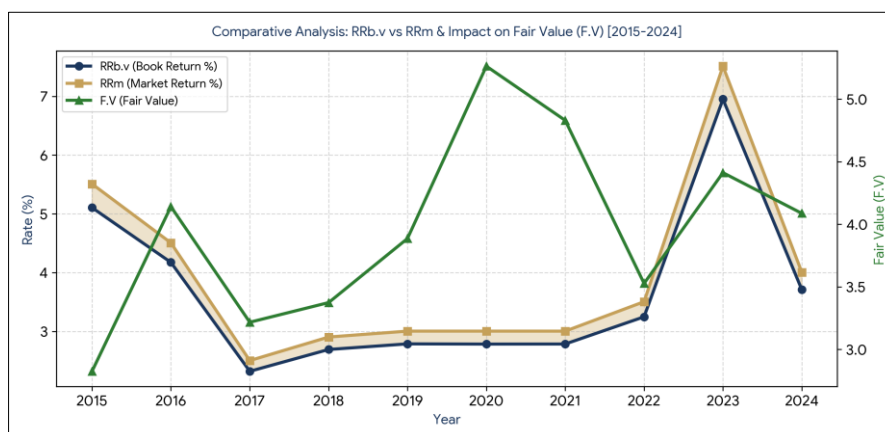


Figure 3: Represents the comparison between, Rm, and fair value (F.V), identifying the spread between the two rates

Source: Prepared by the researchers and based on the financial analysis in Table (3).

Through analysis, the graph showed a perfect parallel between the book return (RB) and market return (Rm). This stability in the direction of the two curves is due to the fact that price movements in the financial market are based primarily on reported accounting profitability, with a permanent increase in Rm representing the risk premium. During the years from 2017 to 2021, the rates recorded a decrease and stability at low levels of approximately (2.78% - 3.00%). The decrease in the financial discount rate allowed the fair value of the stock to gradually rise until it reached its historical peak in 2020 at (5.263), which confirms the existence of an inverse relationship between the discount rate and the fair value. In 2023, the rates rose suddenly to (6.95%) book return rate and 7.51% market return rate. Despite the sharp increase in the assumed discount rate, the fair value rose to (4.412) compared to (3.527) for 2022. The explanation for this lies in the phenomenon of operational inflation. The significant increase in profits and nominal cash flows outweighed the negative impact of the higher discount rate.

DISCUSSION

The required rate of return at book value is more stable than the required rate of return at market value and has the same effect on the fair value of the stock. There is a significant inverse relationship in the long run, and field data confirms the validity of the CAPM model hypothesis in interpreting fair value. General trends indicate that a decrease in the cost of ownership contributes to enhancing stock valuations for industrial companies. The changes in fair value were not driven by interactive changes in the company's internal risks, but rather by shocks stemming from the risk-free return (RRf) and the market premium to book value (RB). The hesitant fair value response to the volatility of 2023 indicates a slowness in the repricing of industrial assets in the Iraq Stock Exchange due to weak liquidity and delays in financial disclosures. Therefore, if an investor wants realized returns through growth and taking advantage of market conditions, the rate of return to market value is better than the book value. Conversely, if the investor desires more regular and stable fluctuations and is somewhat conservative, then the rate of return to book value is better. In terms of their impact on the fair value of the share, the impact is somewhat similar, according to the financial analysis of Iraqi industrial companies.

CONCLUSION

Contemporary financial and accounting literature shows a pivotal shift towards favoring accounting-based valuation frameworks at the expense of traditional market models, especially in economic environments suffering from structural shocks and sharp fluctuations. When applying the

scientific conclusions of those studies, such as the consensus of Ball *et al.*, (2022) and Nguyen *et al.*, (2024) regarding the ability of the implicit accounting model to provide a discount rate that reflects economic cycles and resists negative trading movements to the Iraqi environment and the industrial sector specifically for the period (2015-2024), the methodological necessity of adopting the book value framework becomes apparent. During the decade spanning from 2015 to 2024, the Iraqi economy witnessed a series of complex crises, ranging from security and political challenges, to sharp fluctuations in oil prices, to mechanisms for restructuring the exchange rate of the Iraqi dinar. This directly impacted the performance of the Iraqi stock market. These factors deepened the problems of low liquidity, weak market efficiency at a low level, and the dominance of trading behaviors based on speculation and psychological biases. In this heterogeneous operating environment, the application of the capital asset pricing model becomes a questionable option. The volatility of beta coefficients and the skewness of the market risk premium lead to the estimation of unstable and excessively volatile discount rates, amplify valuation errors, and push fair value away from the intrinsic long-term value of industrial companies. Herein lies the added value of recent results. The reliance on the book value and retained earnings framework for the ten studied industrial companies allows for the construction of an implied required rate of return based on real assets and existing production capacities. In this context, book value acts as a "structural shock absorber," mitigating the impact of temporary price collapses or spikes resulting from market liquidity shortages. Accordingly, the alignment of modern academic perspectives with the practical realities of the Iraqi industrial sector demonstrates that historical and projected accounting fundamentals are not merely retrospective documentation tools, but rather essential valuation anchors that contribute to deriving more accurate and stable fair values. This provides institutional investors and regulators with a decision-making tool free from temporary price distortions.

REFERENCES

- Al-Amiri, Muhammad Ali, 1st ed., 2013, Modern Financial Management, Dar Wael for Publishing and Distribution, Amman, Jordan
- Al-Hares, O. M., El-Gazzar, S. M., & Moustafa, E. (2012). The value relevance of book value and earnings in emerging markets during crisis periods. *Journal of International Accounting, Auditing and Taxation*, 21(2), 120-134.
- Ball, R., Gerakos, J., Linnainmaa, J. T., & Nikolaev, V. (2022). Earnings, book values, and the cost of capital in emerging and developed markets.

- Journal of Accounting Research, 60(4), 1301-1345.
- Botosan, C. A., & Plumlee, M. A. (2005). Assessing alternative proxies for the expected cost of equity capital. *The Accounting Review*, 80(1), 21-53.
 - Burgess, D., Zerbe, R., The most appropriate discount rate, *Journal of Benefit-Cost Analysis* 2013; 4(3): 391-400.
 - Central Bank of Iraq (CBI). (2023). Annual Economic Report & Financial Stability Report (2015-2023). Central Bank of Iraq, Baghdad.
 - Damodaran, A. (2012). *Investment valuation: Tools and techniques for determining the value of any asset* (3rd ed.). John Wiley Sons.
 - Easton, P. D. (2004). PE ratios, PEG ratios, and estimating the implied cost of capital on equity capital. *The Accounting Review*, 79(1), 73-95.
 - Flaifel, Ali Abdul-Ameer, Al-Rubaie, Hakim Mohsen, *International Investment by Adopting the ICAPM and Investments of International Companies*, 1st ed., 2022, Beirut, Najaf, Iraq
 - Frank, M. Z., & Shen, T. (2021). Book value, residual income models, and the implied cost of equity in volatile markets. *Review of Accounting Studies*, 26(3), 912-948.
 - Hong, N., Huong, P., Linh, N., Does weather anomaly still affect the emerging stock market under the unexpected event? New evidence from the COVID-19 pandemic, *Heliyon* 9 (2023) e18665, <https://doi.org/10.1016/j.heliyon.2023.e18665>.
 - Hou, K., Dijk, M., Zhang, Y., The implied cost of capital: A new approach, *Journal of Accounting and Economics* 53 (2012) 504-526.
 - International Accounting Standards Board (IASB). (2011). IFRS 13: Fair Value Measurement. IFRS Foundation.
 - Iraq Stock Exchange (ISX). (2024). Annual Trading Indicators and Market Liquidity Reports for Industrial Sector (2015-2023). ISX Publications, Baghdad.
 - Al-Khafaji, Nour Al-Huda Abbas, The Role of Operational Efficiency in Achieving the Required Rate of Return, 2026, Master's Thesis, Department of Financial and Banking Sciences, College of Administration and Economics, University of Kufa.
 - Majtumi, Sajjad Ali Hassoun, The Impact of Earnings Capability on the Fair Value of Shares, 2026, Master's Thesis, Department of Financial and Banking Sciences, College of Administration and Economics, University of Kufa
 - Majid, Z., AL-Iraqi, B., V Estimation of The Required Rate of Return According to the CAPM & Fama & French 5F Models: A Comparative Study of A Sample of Companies Listed in the Iraqi Stock Exchange, *Tikrit Journal of Administrative and Economic Sciences*, (2022); Vol. 18, No. 60, Part (2): 318-344.
 - Mathews, M., *Mathematics of Finance: Internal Rate of Return (IRR)*, *International Journal of Science and Research (IJSR)*, 2022, ISSN: 2319-7064.
 - Nguyen, H., Li, X., & Zhang, Y. (2024). Implied cost of equity, fair value accuracy, and accounting fundamentals: Evidence from structural shocks. *Journal of Business Finance & Accounting*, 51(1), 88-119.
 - Ohlson, J. A. (1995). Earnings, book values, and dividends in equity valuation. *Contemporary Accounting Research*, 11(2), 661-687.
 - Ohlson, J. A., & Juettner-Nauroth, B. E. (2005). Expected EPS and EPS growth as determinants of value. *Review of Accounting Studies*, 10(2-3), 349-365.
 - Vernimmen, P., Quiry, P., Dallochio, M., Fur, Y., Salvi, A., *Corporate Finance: Theory and Practice*, 2018, Fifth Edition, By Pierre Vernimmen, Pascal Quiry, Maurizio Dallochio, Yann Le Fur and Antonio Salvi, John Wiley & Sons, Ltd.
 - Xu, J., Pan, Z., Tian, G., Does the threat of enforcement of financial regulations affect the cost of equity in weak corporate environments? *The British Accounting Review* 55 (2023) 101233.