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ORIGINAL

Using Walter's Model for Analyzing the Relationship Between the Inflation Rate and The Stock's Fair Value

Utilizando el modelo de Walter para analizar la relación entre la tasa de inflación y el valor razonable de las acciones

Bushra Mohamed Sami Alasadi[1], Akeel Hamza Almagtome[1]

[1]University of Kufa, Faculty of Administration and Economics. Najaf, Iraq.

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Corresponding author: Akeel Hamza Almagtome

ABSTRACT

This paper uses the Walter model as the adopted framework to elucidate the correlation between the inflation rate and the fair value of shares of industrial businesses listed on the Iraqi Stock Exchange. The research used the Walter model to examine the correlation between the inflation rate and the equitable value of shares. The Capital Asset Pricing Model (CAPM) was used to calculate the rate of return necessary for determining the risk premium. The risk premium, one of the model's components, is determined by considering the beta factor, the return of the RM market portfolio, and the risk-free rate of return RF. The study focused on examining the significance of the risk premium in determining fair value. The rate of return needed is a fundamental element of it. Statistical analysis was performed to calculate the correlation coefficient and conduct simple and multiple regression analysis. This was done to assess the connection between the variables in the research. The investigation arrived at specific results and uncovered a clear association between the inflation rate and the fair value of equities. The paper presents an analysis of the influence of inflation on stock value and conducts a comparison examination of accounting methodologies for stock inflation. It assists market players in making portfolio choices by providing them with inflation information. Policymakers may use contractionary policy measures to diminish the money supply. The paper examines the influence of inflation on methodologies used to evaluate stocks.

Keywords: Walter's Model; Government spending; Inflation Rate; Stock's Fair Value; Iraqi Stock Market.

RESUMEN

Este trabajo utiliza el modelo Walter como marco adoptado para dilucidar la correlación entre la tasa de inflación y el valor justo de las acciones de empresas industriales que cotizan en la Bolsa de Valores de Irak. La investigación utilizó el modelo Walter para examinar la correlación entre la tasa de inflación y el valor equitativo de las acciones. El Modelo de valoración de activos de capital (CAPM) se utilizó para calcular la tasa de retorno necesaria para determinar la prima de riesgo. La prima de riesgo, uno de los componentes del modelo, se determina considerando el factor beta, el rendimiento de la cartera de mercado RM y la tasa de retorno libre de riesgo RF. El estudio se centró en examinar la importancia de la prima de riesgo para determinar el valor justo. La tasa de retorno necesaria es un elemento fundamental de la misma. Se realizó un análisis estadístico para calcular el coeficiente de correlación y realizar un análisis de regresión simple y múltiple. Esto se hizo para evaluar la conexión entre las variables en la investigación. La investigación llegó a resultados específicos y descubrió una clara asociación entre la tasa de inflación y el valor justo de las acciones. El trabajo presenta un análisis de la influencia de la inflación en el valor de las acciones y

realiza un examen comparativo de las metodologías contables para la inflación de las acciones. Ayuda a los agentes del mercado a tomar decisiones sobre sus carteras proporcionándoles información sobre la inflación. Los responsables de las políticas pueden utilizar medidas de política contractivas para disminuir la oferta monetaria. El artículo examina la influencia de la inflación en las metodologías utilizadas para evaluar las acciones.

Palabras clave: Modelo de Walter; Gasto Público; Tasa de Inflación; Valor Justo de las Acciones; Mercado de Valores Iraquí.

INTRODUCTION

Economic theory suggests that at least two critical factors should influence stock fair value.[1] The first is the double effect of change in the inflation rate, and the second is the financial leverage effect. The inflation rates in emerging nations have intricate dynamics that are impacted by several variables, such as monetary policy, fluctuations in currency rates, and structural economic circumstances. Studies have shown that the ideal amount of inflation for emerging countries is greater than the often-mentioned 5 %. Some research suggests that the range might be between 7 % and 14 %, depending on the degree of development.[2] The correlation between inflation and seigniorage, which refers to the income gained by issuing currency, is significant. When the inflation rate reaches 6,7 %, there is a transition from positive to adverse effects on inflation tax.[3] Several emerging markets and developing countries (EMDEs) have effectively decreased inflation rates in recent decades by implementing stability-focused monetary policies and institutional reforms. However, it is worth noting that inflation expectations in these economies are not as firmly established as in advanced economies.[4] The factors that influence inflation in these nations often include money supply, variations in exchange rates, and international pricing, resulting in substantial long-term and short-term consequences. Moreover, the inflation tax exhibits significant variation, often more minor in economically disadvantaged nations and greater in heavily indebted ones. Furthermore, it is positively associated with government expenditure.[5] Structuralist models emphasize the impact of disputes over distribution and interconnections between different sectors in causing inflation. These models show that changes in relative incomes may result in substantial inflationary pressures. Furthermore, the exchange rate system impacts the inflation process in emerging nations, with the expansion of money supply and fluctuations in exchange rates playing a more significant role under floating systems. In contrast, inertial factors are more prominent under fixed systems.[6] It is crucial to differentiate between permanent price rises and a usually increasing price level to comprehend the inflation rate. Both monetary and institutional factors have significant impacts on this distinction. In emerging nations, inflation's complex and diverse character requires a careful and sophisticated approach to policy-making and economic management.[7] Business enterprises face many challenges due to global developments and events, political, economic, and military changes, and wars in various world regions. These events have negative repercussions and undesirable consequences due to the decline in economic activity in general and the activities of business enterprises in particular because they operate in an unstable environment due to this abundance of Intertwined global and regional events. Accordingly, business establishments in various world countries are affected and have been affected, as wars and epidemics such as the Corona pandemic have greatly affected economic activity and the movement of transport with all its activities. These variables also affect inflation rates according to the circumstances of each country, and accordingly, businesses have been affected. Iraqi enterprises, especially since Iraq did not witness political and economic stability for twenty years after the year of the abhorrent occupation in 2003. Therefore, this research analyzed the impact of the inflation rate on the fair value of stocks, which was calculated by adopting the Walter model for a group of industrial companies from 2010 to 2021.

Literature review

One of the goals of financial economics is to determine the relationship between inflation and stock prices to understand stock price behavior better.[8] This relationship could be positive or negative. The stock exchange-inflation relationship has always been controversial; it is one of the macroeconomic variables suggested in several empirical studies as affecting stock returns. Empirical evidence, which has been sparse and inconclusive, shows that research is still mixed, and none of the answers can be justified by broad support in the data evidence. Inflation refers to the persistent increase in the overall price level over time.[7] This increase erodes the buying power of money owing to the concept of the time value of money. As time passes, the value of money decreases due to rising prices and increasing inflation rates caused by many factors. A reduction counterbalances the increase in prices. The drop in demand and the factors contributing to the increase in pricing have affected the supply of commodities. Inflation affects individuals and companies in all aspects of the economy, including their

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roles as lenders, borrowers, wage workers, taxes, and consumers. Changes in the inflation rate often influence commodities, resulting in increased prices and reduced buying power.

The inflation rate, which refers to the pace at which prices in the whole economy are rising, is a crucial macroeconomic measure that has significant consequences for several sectors, such as aquaculture and financial business risk management.[9] Recent research indicates that several nations are experiencing the most excellent inflation rates in the last three to four decades. This price surge may be attributed to variables like the COVID-19 epidemic, economic shutdowns, and geopolitical events like the Russian invasion of Ukraine.[10] Central banks, like the Federal Reserve in the United States, strive to sustain inflation rates at about 2 % to guarantee economic stability. However, the ideal inflation rate may differ based on economic circumstances and theoretical frameworks.[9] The New Keynesian model proposes that the ideal inflation rate in the long term should be between 0,5 % and 2 %. This is determined by pricing inflexibility and the state of the labor market.[11] Studies have shown that advanced forecasting models, such as the hybrid SARIMA-MLPNN, enhance the precision of inflation rate forecasts. This is paramount for efficient economic planning and policy-making.[12] Furthermore, researchers have used Markov chain models and vector autoregression models with Consumer Price Index (CPI) data to simulate and predict inflation rates, offering valuable insights for managing economic risks. The observed inflation goals in industrialized countries, often set at approximately 2 %, are consistent with the predictions of prominent theories of monetary non-neutrality. These theories propose that the ideal inflation rate falls within a band just below zero to just over zero. Comprehending and precisely predicting inflation rates are crucial for upholding economic stability, bolstering robust economies, and guaranteeing the prosperity of enterprises, especially those in aquaculture, despite the difficulties presented by changing inflation.

Inflation may be classified according to distinct economic and cosmological ideas. Demand inflation in the economic context refers to a situation when there is an overall excess demand in the product market.[13] This is often seen in emerging countries and may be caused by causes such as cost-push effects, sectoral changes, and wage-price spirals.[14] Monetary inflation, affected by central banks such as the Federal Reserve, appears in the form of increased prices for assets and products. This is caused by a disruption in the monetary system and a lack of consistent demand for high-powered money.[15] Regarding cosmology, inflationary models can be categorized into three types: those based on Einstein's theory of gravity with an inflaton scalar field, those based on modified gravity theories with ordinary matter fluid, and hybrids of these two models.[16] An example of the latter is soft inflation, which involves two scalar fields and is particularly noteworthy.[17] Anisotropic inflation, defined by varying Hubble expansion rates in various directions, may result in detectable anisotropic consequences in the cosmic microwave background.[18] Propelled by distinct scalar-field potentials, slow-roll inflation leads to diverse inflationary dynamics and perturbation spectra.[19] In addition, a cosmological model with a spatially flat scalar field offers valuable information on the development of abnormalities in energy density and the formation of large-scale structures during the inflationary period.[20] The comprehensive and grounded account of inflation also emphasizes the influence of government action and the autonomy of the central bank in managing inflation, with a focus on optimizing the difference in temporal preference rates between the government and households.[21] Although the scenarios also discuss the practical uses of inflation in devices such as hand grips, surgical beds, and corrugated pipes, it is essential to note that these applications pertain to mechanical inflation rather than economic or cosmic inflation. Therefore, inflation includes a wide range of occurrences in several sectors, each with distinct features and consequences.

Fair value is the value that genuinely expresses the share price without exaggerating the price or a value that is less than the actual value of the share. It is also the standard or real value that reflects the fair value of shares, and it is a topic that investors are very interested in so that they are aware of the general level. For performance and the levels of returns they desire, the fair value is the actual value of the shares, which reflects the expected value of the share (Brigham & Houston. 2019) as it is, and this is reflected in the value of the assets and profits of the business establishments. Therefore, if the investor had information about the business establishment, he would have no justification to pay the value. Thus, fair value is determined based on fundamental analysis without any relationship to market value, also called fundamental value. Investors knowing the actual value enables them to make sound decisions before investing to acquire shares. The fair value is affected by several factors that have a strong influence. In it, it is also affected by political and economic conditions, and if the market value is higher than the fair value, this indicates that the stock is priced at a higher value than its value, and vice versa; if it is lower, this suggests that the stock is valued at less than its fair value, but if they are equal, this certainly indicates balance and means Also, the pricing was balanced, fair, and correctly calculated.

The concept of value and the act of evaluation are interconnected with all financial activities, including financing, investment, portfolio management, corporate finances, and financial reconstruction. Each of these activities requires an assessment of part of its operational activities, and evaluation is one of the concepts that has always attracted the attention of various schools—economy, investors, and managers. In the new financial model, the purpose of management representing shareholders is to create shareholder value and wealth.

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Financial management knowledge is the knowledge that explains how to invest, increase the efficiency of financial resources, and allocate financial resources.[22]

Fair value accurately represents a share's price without any overstatement or undervaluation. The intrinsic value is the actual value that accurately represents the fair value of shares. It is a subject of great interest to investors as it gives them an understanding of the overall level. The fair value of shares is the actual value that represents the typical value of the shares, considering the performance and desired levels of returns. The assets and income of the company premises determine this value. Thus, if the investor knew the firm setup, he would have no valid reason to pay the amount. Therefore, fair value is established by fundamental research independent of market value, also known as intrinsic value. Investors who possess accurate knowledge of the actual worth can make informed selections before investing to get shares. Various influential elements significantly impact the fair value. Political and economic factors influence the stock's valuation. If the market value exceeds the fair value, it suggests that the stock is overpriced. Conversely, the stock is undervalued if the market value is lower than the fair value. When the market value and fair value are equal, it signifies a state of balance. Furthermore, the price was equitable, just, and accurately computed.

The notion of value and the assessment process are intrinsically linked to all financial endeavors, including financing, investment, portfolio management, corporate finances, and financial restructuring. Each of these tasks necessitates an evaluation of a portion of its operational operations, and assessment is one of the notions that has consistently garnered the interest of different educational institutions. Topics of interest include the economy, investors, and management. In the context of the new financial model, management's primary objective is to generate shareholder value and enhance wealth for the shareholders. Financial management knowledge refers to the understanding of how to invest strategically, optimize the use of financial resources, and allocate them effectively.[22]

METHOD

This research uses a model to examine the correlation between inflation rates and the fair value of stocks. The theory indicates that corporations accept or decline an investment depending on whether the return on investment significantly exceeds or falls short of the needed threshold. This assumption renders the model often referred to as the bird-in-the-hand hypothesis. Dividends are crucial since they significantly affect the share price. The model examines the impact of dividend restrictions on the common stocks of enterprises, with predictions grounded on the actual forms of dividends, share prices, and profits. The interplay among these three elements is crucial to the firm's financial strategy. Furthermore, its correlation with market pricing is the primary objective in forming a connection.

This research aims to integrate the correlation between the inflation rate and the equitable valuation of shares into the model. The integration is notably significant as fluctuations in the inflation rate and the rise in anticipated inflation might elevate the required returns on financial assets. Newly issued fixed-income instruments may need elevated rates to facilitate sales when debt issuers anticipate losses resulting from increased inflation rates.

The Walter model posits that a firm's market value is contingent upon its dividend policy, meaning that its profits affect the value. The Walter model posits that the business initially refrains from distributing dividends and instead utilizes earnings for investment to enhance the firm's worth. The firm's worth might increase via the reinvestment of earnings or the retention of profits. The model seeks to elucidate the trade-off between the firm's value escalating rate via reinvestment and shareholders' investment dynamics via dividends. The Walter model posits that a firm's value is optimized by retaining earnings for reinvestment; hence, the importance of dividends and their retention rate is substantial. Investors may reinvest their dividends to produce future income since tax regulations differentiate between capital gains and dividends for investors.

The entity must distribute all its returns or profits among shareholders through dividends. It will lead to more investment opportunities in the future. The payment ratio, in this case, remains 100, and the model adopts the following equation:

$$P=D/K+r/ke(E-D)/Ke$$

P = Share price
D = Per share of the dividend
E = Earnings per share
K = Required rate of return
R = Internal rate of return

The study sample comprises five businesses from the industrial sector for whom data were accessible throughout the research period, are:

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1. Baghdad for Packaging Materials
2. Baghdad for Soft Drinks
3. Iraqi Carpets and Furnishings
4. Ready-Made Garments Production
5. Modern Sewing Company

RESULTS

The Inflation Rate Analysis

Table 1 presents the inflation rate of Iraq from 2010 to 2021. 2019 the rate hit its nadir, plummeting to a negative rate of -0,2. The inflation rate in 2017 and 2016 was the lowest compared to previous years, with rates of 0,2 and 0,5 correspondingly. The maximum rate recorded was 0,06 in the year 2021. The inflation rates in Iraq have a substantial influence on price levels, notwithstanding the high levels that have been present resulting from the repercussions of conflicts and the total embargo placed on Iraq by the UN Security Council. The embargo was a consequence of the incursion of the Iraqi army into Kuwait. During that period, the exchange rate between the Iraqi dinar and the US dollar was 3,33, while the Kuwait City dinar was valued at 800 files of the Iraqi dinar. This suggests that the Iraqi dinar had a higher value than the Kuwait City dinar. Macroeconomic variables exert collective and individual influence on other variables, such as consumer prices, interest rates, exchange rates, and other relevant aspects. The inflation rate indirectly affects stock values, as seen by their association with financial markets and their market or actual worth.

Table 1. Inflation rate for the years 2010-2021

Years	Annual % inflation rate
2010	2,4
2011	5,6
2012	6,1
2013	1,9
2014	2,2
2015	1,4
2016	0,5
2017	0,2
2018	0,4
2019	-0,2
2020	0,6
2021	6,0

Fair value Analysis

There are a group of variables that contribute to calculating the fair value of shares, each of which must be analyzed and are as follows:

Market Portfolio Return

The market portfolio includes registered companies whose shares are traded on the financial market. It is a comprehensive portfolio that expresses the general situation of price levels and returns. The return of the market portfolio reached 8,1 % for the period beginning from 2011-2021, as shown in table 3, which are companies that have worked and are still working within An economy that has suffered and is still suffering from economic problems affected by fluctuating changes locally, regionally and internationally. It is also an economy that has suffered from depression and neglect in all its sectors over more than twenty years. The returns of businesses that operate within an economy that has suffered a lot are certainly affected in a repulsive investment environment due to the loss of security in all its forms. Therefore, the returns of companies operating within the Iraqi economy varied in their activities and specialized sectors. It is natural for this to be the case in the absence of attention to the problems that hinder the activities of business establishments in general, mainly when attention is focused on self-benefits and the spread of the phenomenon of administrative and financial corruption. Without solutions and the absence of the rule of law, all of this makes the investment environment repulsive and harms the activities of business owners in general.

Earnings per share

Earnings per share is an essential indicator in the eyes of the investor and owner because it expresses the level of profitability for each business establishment. The higher it is, the more it is considered a sound

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indicator of good performance because business establishments are looking to achieve profits, as is apparent in table 4, which includes the profitability of company shares. The research subject notes a decline in earnings per share during the research period, and the explanation for this is the changes that occurred in the country during the period that followed the year of occupation and the lack of interest in the economic sectors. Despite its decline, Baghdad Soft Drinks Company had the best earnings per share as an average for the research period. It is the best company in the group, but that does not mean it has a satisfactory average profitability of 1,076 dinars. Also, in some years, the dividends were lower than the average because some companies suffered losses due to the loss of national support and product protection. The lowest profitability was for the two Baghdad companies, which manufacture cleaning materials and packaging, and the sewing company.

Table 2. Return on the investment portfolio of sample companies

Years	Annual % inflation rate
2010	8,421
2011	8,074
2012	6,441
2013	6,911
2014	6,112
2015	3,674
2016	3,858
2017	3,634
2018	3,699
2019	4,523
2020	4,48
2021	4,951
Average	5,398

Table 3. Earnings per Share (manufacturing sector).

Years	Baghdad for the packaging materials industry	Baghdad for soft drinks	Iraqi Carpets and Furniture	Production of ready-made clothing	Modern Tailoring Company
2011	-0,0001	0,22	0,054	0,106	0,011
2012	0,027	0,979	0,06	0,014	0,03
2013	0,035	1,142	0,054	------	0,106
2014	0,033	1,001	0,053	0,051	0,101
2015	------	1,179	0,058	------	0,,170
2016	0,005	1,272	0,059	0,003	0,076
2017	0,003	1,,158	0,263	2,84	0,354
2018	0,019	1,399	0,112	0,047	2
2019	0,017	1,258	0,13	0,023	0,032
2020	1	1,276	0,152	0,014	0,0001
2021	0,001	0,955	0,197	0,054	0,0001
Average	0,101	1,076	0,153	0,288	0,089

Dividend per share

The highest average dividend share was for the Iraqi Carpet and Furnishing Company, a company known for the quality of its products and high demand for its products. The average share for this company for the research period was 6,761 dinars per share, followed by the soft drinks company, which is also known for its product and the increased demand for it. There is a slight difference between the two companies. The ready-made clothing and sewing companies had the lowest dividend per share, and the packaging materials company was fourth. It is known that this period, extending from 2011 to 2021, is an extension of the period after the occupation in 2003, as Iraq did not witness any development or interest in the Iraqi economy. He was limited to waiting for oil revenues and relying on them to prepare and finance the operational budget, as there were no investments. This table shows the activity of these companies, as Iraq has not witnessed any noticeable development in them.

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Table 4. Dividends per share

Years	Baghdad for the packaging materials industry	Baghdad for soft drinks	Iraqi Carpets and Furniture	Production of ready-made clothing	Modern Tailoring Company
2011	6,904	4,044	8,752	0,325	0,145
2012	0,019	3,596	2,751	0,026	0,192
2013	0,328	0,61	4,043	20,59	1,347
2014	0,377	0,343	3,242	0,549	0,467
2015	0,627	0,205	1,257	0,648	1,024
2016	0,261	2,183	14,351	0,8	1,446
2017	0,108	0,494	3,165	1,301	0,28
2018	0,325	0,646	5,24	2,626	1,28
2019	0,146	1,025	9,503	7,223	1,157
2020	0,035	57,417	11,215	4,044	2,115
2021	4,258	1,066	10,848	7,12	0,901
Average	1,217	6,512	6,761	4,112	0,941

Return on Investment Rate

Table 5 shows the rate of return on investment for the companies studied during the research period. The table also shows that the rate of return on investment, which is one of the components of the Walter model for calculating fair value, varies between the companies involved in the research. Still, the Baghdad Soft Drinks Company was the largest in the rate of return on investment among the group, and this indicates the income achieved, which is greater than the invested capital, and this is through the increasing demand from the consumer, as the average return for this company reached 1,121 dinars. The packaging industry came with a significant difference, reaching 0,109, while the rest were at their lowest levels.

Table 5. Return on investment rate

Years	Baghdad for the packaging materials industry	Baghdad for soft drinks	Iraqi Carpets and Furniture	Production of ready-made clothing	Modern Tailoring Company
2011	0	0,22	0,054	0,106	0
2012	0,01	0,979	0,06	0,014	0,01
2013	0,035	1,142	0,053	0,001	0,035
2014	-0,033	1,001	0,053	-0,051	-0,033
2015	-0,084	1,179	0,058	-0,047	-0,084
2016	0,004	1,272	0,059	0,003	0,004
2017	0,003	1,158	0,073	0,059	0,003
2018	0,019	1,399	0,112	0,047	0,019
2019	0,017	1,258	0,13	0,023	0,017
2020	162,301	1,277	0,152	0,014	162,301
2021	0,007	0,955	0,197	0,054	0,007
Average	0,109	1,121	0,096	0,021	0,109

Required rate of return

The needed rate of return is a crucial factor in determining the fair value. This rate is directly related to the amount of risk. Essentially, when the level of risk increases, the corresponding needed rate of return is expected to rise as well, and vice versa. If the level of risk reduces, the necessary rate of return also decreases, provided that the investing environment remains stable. Suppose the environment is volatile and subject to ongoing variations caused by significant political, economic, and sociological variables, as shown in table 8. In that case, the necessary rate of return, beta coefficient, and variance are affected. The soft drinks firm had a needed rate of return of 5,8 %, which was the highest among all the rates. The most outstanding beta value was 1,13, while the other betas were identical. Companies exhibit similar levels of return and beta. This indicates that the necessary rate of return is directly related to the degree of risk and that this group of enterprises works in an unpredictable environment. Consequently, it is not unexpected that the study findings sometimes seem nonsensical owing to the ongoing swings.

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Table 6. Required rate of return.

Years	Baghdad for the packaging materials industry	Baghdad for soft drinks	Iraqi Carpets and Furniture	Production of ready-made clothing	Modern Tailoring Company
2011	6,9	1,54	5	6,4	2,15
2012	4,2	1,49	4,6	7	3,57
2013	2,72	2,99	4,15	5	2,8
2014	1,7	2,26	4,25	8,45	3,5
2015	1,93	2,94	4,28	13,6	2,8
2016	1,84	2,5	5,15	14,7	4,14
2017	1,38	2,68	8,1	13,1	4,9
2018	1,3	3,59	7,98	13,7	3,99
2019	1,98	3,29	8,85	12,5	6,5
2020	2	4,15	10	11,9	6,68
2021	2	4,3	15	13	5,3
Mean	2,541	2,885	7,033	10,85	4,212
S.D	1,571	0,885	3,231	3,282	1,42
variance	2,468	0,783	10,441	10,775	2,018
Beta	0,637	1,13	0,309	0,305	0,704
Rf+(Rm-Rf)*Bata Required of return	3,277	5,778	1,619	1,594	3,618

The Fair Value

Fair value refers to the mutually agreed upon value of an item by the parties involved, whether a security or a physical asset. Therefore, the value of security is presented in its proper form, without any embellishment or distortion of its intended meaning. However, it is impacted by many political, economic, and social factors since these conditions significantly influence the situation regardless of their disparities. An investor's price is contingent upon several factors, such as market movement, investors' trends, their level of knowledge about market circumstances, and the availability of information. This implies that the accuracy of the information upon which the investor bases their pricing is crucial. Consequently, he is reluctant to propose a price that surpasses the equitable or factual price. Table 7 displays the accurate valuation of the sample firms and this group. Like other sectors of the Iraqi economy, enterprises in the industrial sector faced obstacles that were unique to the overall Iraqi economy. Thus, the mean fair value throughout the time was lower than the nominal value of the shares, which is one dinar in Iraq, except for the soft drinks firm. This particular company stands out because it makes a popular beverage that is in demand, offered at reasonable rates, and widely consumed. However, there were several years in which this corporation's valuation fell below its shares' nominal value. The Carpet and Furniture Company ranks second, but with a notable distinction, since its average fair value throughout the time was 1,451 dinars, similar to the other three enterprises. At the time of subscription, the share's fair value was lower than its nominal value, which was one dinar.

The Statistical Analysis

The research hypothesis adopted is that there is a significant correlation and influence between inflation and the fair value of the shares of a group of industrial companies in the research sample, as is evident from the data in table 8 that the Baghdad Packaging Materials Manufacturing Company achieved a correlation level of 0,544 (and this expresses the existence of a positive correlation relationship). It is moderate between the two variables (inflation and fair value). The table also showed that the influence of inflation on the second variable, the fair value, is at the level of (0,104) and statistically significant at (0,05). The calculated (F) value is (3,371), which is less than The tabular F value of (3,964). Therefore, the research hypothesis of a correlation and influence relationship between the two variables is rejected.

The Baghdad Soft Drinks Company had a correlation level of (0,145), which expresses the presence of a positive and weak correlation between the two variables (inflation and fair value) for the company above and the level of influence of the first variable (inflation) on the second variable (working value) was (0,689). It is statistically significant at the level of (0,05), and the calculated F value is (0,172), which is less than the tabulated F value of (3,964). Therefore, the Baghdad Soft Drinks Company rejected the research hypothesis that the two variables have a correlation and influence relationship. As for the two companies, Al-Sajad Furniture and Ready-made Clothes, the correlation was very weak but positive, and the effect is non-existent. That is, there is no effect of the first variable (inflation) on the second variable (labor value), meaning the research

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hypothesis that there is a relationship of correlation and influence between the two variables is rejected for the two mentioned companies, as The table presented the results of the analysis for the Modern Tailoring Company, as the correlation reached (0,545), which indicates the existence of a moderate and positive correlation between the two variables. The table also showed that the influence of inflation on the second variable, the fair value, is at the level of (0,103) and statistically significant at (0,05). Also, the calculated F value is (3,378), less than the tabulated F value of (3,964). Therefore, the research hypothesis of a correlation and influence relationship between the two variables is rejected. These statistical analysis results show that the effect between the two variables is unclear. The statistical analysis results would have had a clear impact if the environment had been stable. In some cases, it is absent, and the reason is the general situation of the investment environment facing these companies, as the environment lacks political and security stability and the lack of planning and rehabilitation of the economic sectors.

Table 7. The fair value of companies for the period from 2011-2022.

Years	Baghdad for the packaging materials industry	Baghdad for soft drinks	Iraqi Carpets and Furniture	Production of ready-made clothing	Modern Tailoring Company
2011	3,473292	0,852566	1,53012	0,056486	0,027035
2012	0,003527	15,11979	0,482829	0,004608	0,035934
2013	0,061009	6,944669	0,720886	3,703808	0,249268
2014	0,071221	0,054246	0,62409	0,103605	0,089722
2015	0,628455	49,7740	0,251503	0,186102	0,198087
2016	0,052205	7,022718	2,902292	0,163726	0,284153
2017	0,023358	0,127166	0,746161	0,317458	0,060046
2018	0,073525	0,090211	1,224624	0,628348	0,271195
2019	0,032151	0,148343	2,274858	1,771467	0,247622
2020	0,06195	8,231117	2,664205	0,998801	0,45237
2021	0,930139	0,165248	2,533974	1,729654	0,192836
Average	0,182343	8,048179	1,450504	0,878551	0,187969

Table 8. The statistical analysis results.

Inflation rate	Correlation (R)	Fair value				
		Impact coefficients	Value (T)	R^2	Value (F)	Sig.
Baghdad for the packaging materials industry	0,544	0,240	1,836	0,296	3,371	0,104
Baghdad for soft drinks	0,145	-4,593	-0,415	0,021	0,172	0,689
Iraqi Carpets and Furniture	0,026	-0,010	-0,073	0,001	0,005	0,943
Production of ready-made clothes	0,016	-0,008	-0,045	0,000	0,002	0,965
Modern sewing	0,545	-0,030	-1,838	0,297	3,378	0,103

DISCUSSION

The long-run economic model that explains the economic relationship between the stock exchange and the inflation rate is grounded in a hypothesis for the money market, using the inflation rate in place of the nominal interest rate. This literature has shown that an increase in the inflation rate will reduce the future value of nominal money, bonds, and other fixed payments. In the stock exchange, an increase in the inflation rate will cause the future value of cash flow signals of each stock to fall and the risk of net book value. However, the proportionate increase in the stock price signals for each monetary contract should still be the same as for cash flow, net book value, and risky nominal bonds to provide both an efficient risk-return outcome for each investor and an accurate stock pricing mechanism before the transfer of money in the economy from future periods to the present due to inflation. This study uses the Walter model to analyze the relationship between inflation rates and stock fair value. The theory explicitly states that firms take or reject an investment based on whether the return on investment is much more or less, respectively, than is required. Because of this assumption, the model is generally known as a bird-in-the-hand theory. This means that dividends are relevant because they have an evident influence on the share price. The model focuses on the effect of dividend constraints on the common stocks of the firms, so prediction is based on the actual forms of dividend, share price, and earnings.

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The relationship among these three aspects is essential to the firm's financial policy. Moreover, market price is the central guiding interest in establishing a relationship. The main interest of this study is to incorporate the relationship between the inflation rate and the fair price of shares in the model. The incorporation is practically interesting because changes in the inflation rate and the increase in the expected inflation rate can also push up the required returns on financial assets. In particular, newly issued fixed-income securities may require higher rates to sell issues when it is expected that debt issuers may expect losses due to the rise in the rate of inflation.

The findings from this study possess considerable theoretical and practical significance for all principal players in the inflation-stock fair market value relationship. The results provide empirical information about the link between the inflation rate and the fair value of stocks for developers of financial models in the macroeconomic domain. We have confirmed and expanded the well known theoretical assertion that the fair value of stocks often diminishes as the inflation rate rises. Nevertheless, the research has shown that the characteristics and extent of the inflationary effect vary throughout various phases of inflation. The timing of the relationship between inflation and stock fair value is crucial, as predictive models now differ for low inflation companies experiencing substantial declines in stock values with rising inflation, and for high inflation companies that exhibit moderate increases in fair values.

It is crucial for policy makers in monetary and fiscal domains to recognize that the current deterministic formal formulas for stock fair values may not be universally applicable across all inflationary phases. This is especially crucial for commissions responsible for advising and executing measures to protect people from stock market bubbles and panics throughout various phases of inflation. This committee may be summoned to preempt future inflationary actions prior to the commencement of rate increases, thereby underscoring the need of precise inflation alerts. The observations are especially beneficial for refining existing macroeconomic decision-making tools regarding stock fair value for informed investors in emerging markets, as current models exhibit inherent biases characterized by elevated and diminished inflationary stage error tolerance levels for stock asset investments in these markets.

CONCLUSIONS

The study examined the relationship between stock market price and economic condition – inflation rate – by deriving the stock fair value model and then modifying the model to include the inflation rate. Several variables, such as monetary expansion, volatility in currency rates, and foreign economic circumstances, have impacted the inflation rate in Iraq. The significant inflationary pressure in Iraq is mainly ascribed to the government's expansion of the money supply to fund budget deficits, particularly during the sanction era from 1990 to 2003. Studies have shown that exchange rate depreciations significantly impact the economy. Specifically, research has shown that a 1 % rise in the exchange rate may result in a 7,666 % loss in GDP. This indicates a substantial negative correlation between exchange rate and economic performance. Furthermore, the inflationary gap in Iraq has worsened due to the imbalanced rates of growth in money supply and GDP, together with the increased economic openness of the nation since 2003, which has resulted in a stronger connection between the local economy and worldwide markets. The deliberate actions of monopolistic entities in the gasoline distribution industry, which lead to fuel shortages, add to the complexity of inflation patterns. This is shown by the gradual changes in regulated fuel prices that have been seen since 2005. Both public spending and money supply contribute to inflation by causing an increase in aggregate demand that surpasses aggregate supply, exacerbating the inflationary gap. Additionally, variations in global oil prices substantially affect Iraq's inflation rates due to the nation's strong dependence on oil income. The central bank significantly stabilizes inflation by managing the money supply and exchange rate policies. The exchange rate acts as a nominal anchor for monetary policy. In Iraq, the inflation rate is multifaceted, influenced by domestic policies and foreign economic circumstances. As a result, the monetary authorities must exercise rigorous control to minimize its negative impact on the economy.

The findings suggest that the inflation rate reached its minimum levels in 2012, with varying levels in subsequent years. All organizations had a decrease in earnings per share (EPS) throughout the study period. The soft drinks firm had the lowest average, while the sewing industry had the lowest. The study period saw a decrease and fluctuation in the dividend share. The Carpet and Furniture Company had the highest average period, while the Modern Tailoring Company had the lowest. The Baghdad Soft Drinks Company stood out with the highest average in terms of the rate of return on investment and the fair value of shares, which exhibited variation. The Packaging Materials Company had the lowest average. The association and effect between the inflation rate and the fair value of equities were insufficient and not statistically significant. Company investments should be diversified to mitigate the impact of influencing conditions, including worldwide, regional, and local variations. It’s necessary to conduct a comprehensive evaluation of the administrative, financial, and operational policies and reassess the processes of the facility's operations, preserving the earned gains and reinvesting them in suitable investment opportunities with lower risk and a satisfactory rate of return.

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AUTHORSHIP CONTRIBUTION

Conceptualization: Bushra Alasadi.
Data curation: Bushra Alasadi.
Formal analysis: Bushra Alasadi.
Research: Bushra Alasadi, Akeel Almagtome.
Methodology: Bushra Alasadi.
Project management: Akeel Almagtome.
Resources: Bushra Alasadi, Akeel Almagtome.
Software: Akeel Almagtome.
Supervision: Akeel Almagtome.
Validation: Bushra Alasadi.
Display: Akeel Almagtome.
Drafting - original draft: Bushra Alasadi.
Writing - proofreading and editing: Akeel Almagtome.