

Shadow Exchange Rate Effectiveness in Stock Market Performance Indicators

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Abstract. The objective of this study is to quantify the difference between the official and unofficial exchange rates of the dollar (shadow) and subsequently assess the degree to which this difference affects the performance of the Iraqi stock market. The official exchange rate installed in the Central Bank of Iraq's window for selling foreign currency and the exchange rate announced on social media platforms such as Facebook or the Al-Kifah Stock Exchange—which represents the months at the level of Iraq from January 1, 2019 to December 31, 2023—were the basis for measuring the gap. It amounts to 60 views per month. The research assumed one main hypothesis: there is no statistically significant effect of the dollar exchange rate gap on the trading indicators of the Iraq Stock Exchange. The most prominent conclusion was that the ISX60 index is affected by fluctuations in unofficial exchange rates. We emphasize the need to put reforms in the foreign trade system by zeroing in on the problems of tax trusts and customs clearance.

Keywords. CBI, isx60, stock market, exchange rate

1. Introduction

The widening gap between the official and unofficial exchange rate has led to the creation of anxiety and uncertainty in the Iraqi market, and it must be noted that there is no so-called parallel market in Iraq, because the source of the dollar that is offered in the local market is the Central Bank of Iraq. There is no other source other than that, and this has been clarified by the Central Bank of Iraq more than once, and accordingly, what is called the "parallel market" has no truth, as that description is given when the market has its own sources of foreign currency, and through private sector exports, local tourism, and remittances of residents abroad and others. As for Iraq, the source of foreign currency is the Central Bank of Iraq. According to this official clarification, the exchange market in which the dollar is traded is a speculative market in a specific price and purpose currency, which is illegal trading, controlled by speculators whose goal is to achieve very large profits that may exceed 100 million dollars per month due to the difference in the official and unofficial exchange rate. The reasons for the existence of the unofficial price and the dominance of speculators in the Iraqi economic scene have several reasons, most of which indicate the weakness of state institutions in implementing the law, according to the economists' analyses. However, the most important reason is the inefficiency of the foreign trade system and the associated tax and customs procedures, as well as the weakness of border control and allowing the smuggling and

entry of goods from countries subject to US sanctions, which requires the commercial market to collect dollars informally to pay for those goods. What increased the price gap by more than 200 dinars per dollar was the imposition of US sanctions on a large number of Iraqi banks, the last of which was 14 banks, on charges of non-compliance with the mechanisms of external transfer of the dollar or their adoption of forged import papers and documents. This may be somewhat true, but the main reason may be that these banks deal in dollars with countries subject to US sanctions (Gupta et al., 2022).

Exchange rate fluctuations and the large price gap have had an impact on investment and commercial activity as a whole. Since the Iraq Stock Exchange represents the only institution in which data are available to serve the current study, in the absence of reports showing the average prices of goods and services and the size of the commercial market, the index of the Iraq Stock Exchange and the volume of stock trading were relied on to identify the extent to which it is affected by the exchange rate gap.

2. Literature Review

1.2. Exchange Rate and Shadow Exchange Rate

Shadow exchange rates reflect market expectations about future economic policies and possible changes in the value of the currency. In cases of economic crises, investors expect future devaluations or new restrictions, which leads to increased demand for foreign currencies in the parallel market and a rise in the gap between official and unofficial prices (Reinhart & Rogoff, 2004). The shadow exchange rate is of great importance in the analysis of projects because the simple way to measure the economic value of goods and services is to classify them into "tradable goods" and "non-tradable goods." For any project, the tradable good or service has a specific price in international markets, regardless of whether the commodity is actually traded. (Martin, 2004)

The official exchange rate in Iraq is sold through the currency sale window of the Central Bank of Iraq, and there are two reasons for the emergence of the foreign currency sale window in Iraq, including the weakness of traditional monetary policy tools as well as the problem of the high general level of prices as a result of the imbalance of the Iraqi economy (the real and monetary side) resulting in turn from the policies followed before (2003), which has a negative impact on the value and exchange rate of the Iraqi dinar. (Al-Shumos, 2020), while the second reason is the issuance of the Central Bank of Iraq Law No. (56) For the year 2004, which was accompanied by a shift in the approach of monetary policy and its mechanism by ensuring the direct monetary tools in an attempt to stabilize the Iraqi dinar exchange rate, reduce inflation and obtain the Central Bank's independence in formulating monetary policy and intervening in the exchange system, as the first section of it stipulated the establishment of a safe, strong and independent Iraqi central bank to achieve price stability in the country and maintain its stability and work to create a financial system based on the market and competition and be stable, in addition to promoting sustainable development and prosperity in Iraq, and the sixth section of it states that the Central Bank is authorized to conduct an open market process with Licensed commercial banks by buying and selling securities and foreign currencies. Therefore, the decision of the Central Bank was to open a window or auction to sell foreign currency (dollars) (Ali, 2015).

The window acts as an intervention tool by the Central Bank to reduce exchange rate fluctuations. Every period of time, dealers display foreign exchange rates under the supervision of the Central Bank, which sells foreign currencies to banks only that have obtained their winning offers at bid prices (Yoshimori, Fellow, & Baker, 2019). The decision to open the

currency sale window was for the purpose of achieving a set of objectives that can be summarized in the following points (Al-Mayah & Shindi, 2022)(Khudhair Hussein et al., 2023).

1. Fulfilling the growing demand for foreign exchange after 2003 and turning off the former regime's multiple exchange rate system.
2. Maintaining the Iraqi dinar's value by keeping the local currency market's supply and demand in check.
3. Maintaining a stable exchange rate in the local market through inflation control and limiting price increases above the average level.
4. Fulfilling the private sector's demand for foreign exchange in order to finance imports.
5. Giving banks the ability to initiate international transactions and open bank accounts in foreign currencies.

The float system became the sole means of managing the economy in Iraq after the exchange rate system was liberalized as a first step toward the country's transition to market mechanisms (Salih, 2012). However, some analysts think that the evolution of the exchange rate system in Iraq after 2003 can be split into two phases: The first stage of the exchange system is the directed float period, which runs from 2004 to 2008. (AL Abdullah et al., 2023)

The second stage, which spans the years after 2008 and up to the present, uses a fixed exchange rate system in which the central bank keeps the declared exchange rate stable through currency sales. (Al-Alaq, 2015) .

2.2. Stock Market Performance Indicators

The Iraq Stock Exchange was established in 2004 after the US invasion in 2003. Before that time, there was the Baghdad Stock Exchange, which was established under Law No. 24 of 1991. This market was a government market that was able to list 113 Iraqi companies at the time. Since the market's launch in June 2004, when more firms have gone public and as the economy has become more diverse, the ISX has experienced extraordinary expansion and development (Al-Jaffal & Al-Abdullah, 2020). Subsequently, the construction of the ISX60 index was carried out by sixty prominent corporations that encompassed a range of economic domains in Iraq, such as banking, industrial, services, construction, insurance, and telecommunications. Market size, liquidity, and trading volume are among the factors that are used to choose the companies that are part of this index (Sadiq, 2019) .

An essential instrument for decision-makers and investors to comprehend market trends, evaluate investment opportunities, and weigh market risks is the ISX60 index. Along with the indicators of the number of traded stocks and trading volume, it is one of the primary indicators used to evaluate the success of the market overall (Mahmood & Ali, 2021) . These indicators are a fundamental component of the technical analysis tools that analysts like Charles Dow created in the late 1800s. These resources have helped to offer insightful information on the strength of market trends and the prospects for price movement in the future (Murphy, 1999) . The index reflects the number of shares traded compared to the total number of shares traded over a specified period of time. This indicator is used to measure market activity and interest in individual stocks or the market in general. The Volume Index measures the total value of stocks traded over a given period of time, expressed in currency units(Arora et al., 2022). Volume is used to determine the strength of market trends and the extent of market liquidity (Achelis, 2001) . Indicators of the number of shares traded and the volume traded help identify levels of market activity and provide signals about potential price movements. For example, when trading volume increases significantly, it can be a signal of increased interest in a particular

stock or the market in general, which can lead to large price movements. Conversely, low trading volume can indicate a weakening of the current trend or a lack of interest in the market (Pring, 2002).

Despite the growth and development of the Iraqi stock market, it faces many challenges, most notably weak political stability and continued fluctuations in exchange rates in the informal market (shadow exchange rates), which affect investor confidence and increase investment risks, as the market needs more reforms to enhance confidence and attract more foreign investment (Al-Zubaidi, 2018). However, there are significant opportunities for market growth, especially as international interest in investing in Iraq increases and economic reconstruction efforts continue. Developing financial infrastructure and enhancing the legislative environment can contribute to attracting more investments and achieving sustainable growth in the market (Hassan & Mustafa, 2022). In general, ISX60 is one of the most important indicators that reflect the performance of the largest companies on the Iraqi Stock Exchange. There are also promising opportunities for its growth and development as efforts continue to improve the investment environment and enhance confidence in the Iraqi economy (Rashid et al., 2021).

3. Research Methodology

3-1 The Significance of The Research:

The importance of the research was born from the fact that it dealt with shadow banking, which is one of the important topics in the Iraqi economy, and then knew the extent of its impact in determining the performance indicators of the stock market. The stability of exchange rates and the decrease in the size of the gap between the official and unofficial price of the dollar reflect confidence in government policies and economic stability, which directly affect the behavior of investors and the performance of financial markets. Therefore, the relationship between informal exchange rates and stock market performance needs to be studied and is essential for understanding economic dynamics and guiding fiscal policies more effectively.

3-2 Research Problem:

Stock markets are one of the important institutions that reflect the size of economic activity, as investors are interested in stock market indices to know the extent of growth and stability of the economic situation of the country. Since the activity of listed companies in the stock market is affected by a number of factors, the most important of which is the stability of exchange rates, and because Iraq has been suffering during the past four years from the exacerbation of the gap between the official and unofficial exchange rate, the problem of the study can be summarized by the following question: (Do unofficial exchange rates affect stock market indices?)

3-3 Research objectives:

- Measurement and analysis of the official and unofficial dollar exchange rate gap (shadow)
- Analysis of the trend of the indicators of the Iraqi Stock Exchange in the study period
- Measuring the impact of the exchange rate gap on the performance of some indicators of the Iraq Stock Exchange isx60.

3-4 Research Hypotheses

The research adopted one main hypothesis (there is no statistically significant effect of the dollar exchange rate gap in stock market indices), of which three sub-hypotheses are subdivided:

3.4.1 There is no statistically significant effect of the dollar exchange rate gap on the ISX60 index.

3.4.2. There is no statistically significant effect of the dollar exchange rate gap on the index of the number of traded shares.

3.4.3. There is no statistically significant effect of the dollar exchange rate gap on the volume index.

3-5 Research Approach:

The research used the descriptive approach and the analytical approach to identify the research variables for the purpose of measuring the magnitude of the impact between the variables.

4. Analysis of the findings

For the purpose of achieving the research objectives of measuring the official and unofficial dollar exchange rate gap and then measuring its impact on the performance of the Iraq Stock Exchange isx60, this paragraph was divided into two parts: the first is concerned with the financial analysis of the official and unofficial dollar exchange rate gap relative to the volume of cash sales of the Central Bank of Iraq from the dollar and the knowledge of the mean and standard deviation and the highest and lowest value of each of the components of Table (2) and then analyze the indicators of the Iraq Stock Exchange represented in the market index isx60 and the index of the number of shares traded and trading volume, while the second section is concerned with the statistical analysis and testing of the main research hypothesis.

4. 1. Analysis of the exchange rate gap and the volume of cash sales from the dollar

Table (1) shows the official and unofficial dollar exchange rates and the price gap and then the cash sales of the dollar from the Central Bank balanced by the official and unofficial price to determine the size of the price gap balanced by the Iraqi dinar for the period from 2019 to 2023, as the arithmetic mean of the total sales of cash from the dollar at the official price amounted to (768,909,137,931) Iraqi dinars, while the sales of the dollar balanced by the unofficial price amounted to (801,441,793,103) Iraqi dinars, and what matters most in this paragraph is the gap between the sales of the official and unofficial price, as its arithmetic mean amounted to (32,532,655,172) Iraqi dinars and With a standard deviation of (56,891,640,832) Iraqi dinars, which indicates a large fluctuation and instability in the size of the price gap during the period of the study. The highest value was in March 2023, at 254,697,000,000 Iraqi dinars. The reason is due to the decision of the Central Bank to restore the official exchange rate to 1300 dinars per dollar, after it was 1470 dinars per dollar. The lowest value of the dollar cash sales gap was in May of 2019, at -3,308,500,000 Iraqi dinars. As it is noted from Table 1, there were periods in which the unofficial price was lower than the official price, and this is the result of the challenge of the dominant system of unofficial dollar banking to the decisions of the Central Bank of Iraq.

Table (1) Official and unofficial exchange rate gap denominated in dinars according to dollar cash sales

Date	Informal. IQD	Formal. IQD	Gap. IQD	CBI Sales - Cash (Million dollars)	Formal.cash. IQD	Informal.cash.IQD	Gap by IQD
Jan,2019	1,195	1,200	-5	539,000,000	646,800,000,000	643,997,200,000	-2,802,800,000
Feb,2019	1,193	1,200	-7	456,000,000	547,200,000,000	544,190,400,000	-3,009,600,000
Mar,2019	1,196	1,200	-4	483,000,000	579,600,000,000	577,668,000,000	-1,932,000,000
Apr,2019	1,195	1,200	-5	519,000,000	622,800,000,000	620,101,200,000	-2,698,800,000
May,2019	1,194	1,200	-7	509,000,000	610,800,000,000	607,491,500,000	-3,308,500,000
Jun,2019	1,194	1,200	-6	423,000,000	507,600,000,000	505,062,000,000	-2,538,000,000
Jul,2019	1,195	1,200	-5	530,000,000	636,000,000,000	633,244,000,000	-2,756,000,000
Aug,2019	1,199	1,200	-1	356,000,000	427,200,000,000	426,844,000,000	-356,000,000
Sep,2019	1,195	1,200	-5	493,000,000	591,600,000,000	589,085,700,000	-2,514,300,000
Oct,2019	1,196	1,200	-4	506,000,000	607,200,000,000	604,973,600,000	-2,226,400,000
Nov,2019	1,201	1,200	1	428,000,000	513,600,000,000	514,070,800,000	470,800,000
Dec,2019	1,202	1,200	2	532,000,000	638,400,000,000	639,304,400,000	904,400,000
Jan,2020	1,202	1,200	2	489,000,000	586,800,000,000	587,944,260,000	1,144,260,000
Feb,2020	1,194	1,200	-6	470,000,000	564,000,000,000	561,104,800,000	-2,895,200,000
Mar,2020	1,199	1,200	-1	306,000,000	367,200,000,000	366,750,180,000	-449,820,000
Apr,2020	1,226	1,200	26				
May,2020	1,227	1,200	27	49,000,000	58,800,000,000	60,133,290,000	1,333,290,000
Jun,2020	1,243	1,200	43	238,000,000	285,600,000,000	295,912,540,000	10,312,540,000
Jul,2020	1,230	1,200	30	205,000,000	246,000,000,000	252,152,050,000	6,152,050,000
Aug,2020	1,223	1,200	23	290,000,000	348,000,000,000	354,696,100,000	6,696,100,000
Sep,2020	1,222	1,200	22	373,000,000	447,600,000,000	455,660,530,000	8,060,530,000
Oct,2020	1,241	1,200	41	338,000,000	405,600,000,000	419,599,960,000	13,999,960,000
Nov,2020	1,249	1,200	49	367,000,000	440,400,000,000	458,243,540,000	17,843,540,000
Dec,2020	1,351	1,200	151	244,000,000	292,800,000,000	329,729,400,000	36,929,400,000
Jan,2021	1,460	1,470	-10	2,000,000	2,940,000,000	2,920,100,000	-19,900,000
Feb,2021	1,461	1,470	-9	1,000,000	1,470,000,000	1,460,720,000	-9,280,000
Mar,2021	1,461	1,470	-9				
Apr,2021	1,476	1,470	6	273,000,000	401,310,000,000	402,849,720,000	1,539,720,000
May,2021	1,486	1,470	16	433,000,000	636,510,000,000	643,602,540,000	7,092,540,000
Jun,2021	1,487	1,470	17	757,000,000	1,112,790,000,000	1,125,606,010,000	12,816,010,000
Jul,2021	1,473	1,470	3	607,000,000	892,290,000,000	894,135,280,000	1,845,280,000
Aug,2021	1,475	1,470	5	983,000,000	1,445,010,000,000	1,450,062,620,000	5,052,620,000
Sep,2021	1,471	1,470	1	912,000,000	1,340,640,000,000	1,341,159,840,000	519,840,000
Oct,2021	1,478	1,470	8	428,000,000	629,160,000,000	632,609,680,000	3,449,680,000
Nov,2021	1,485	1,470	15	937,000,000	1,377,390,000,000	1,391,445,000,000	14,055,000,000
Dec,2021	1,485	1,470	15	924,000,000	1,358,280,000,000	1,372,140,000,000	13,860,000,000
Jan,2022	1,488	1,470	18	969,000,000	1,424,430,000,000	1,441,387,500,000	16,957,500,000
Feb,2022	1,490	1,470	20	798,000,000	1,173,060,000,000	1,189,020,000,000	15,960,000,000
Mar,2022	1,488	1,470	18	859,000,000	1,262,730,000,000	1,277,762,500,000	15,032,500,000
Apr,2022	1,485	1,470	15	710,000,000	1,043,700,000,000	1,054,350,000,000	10,650,000,000
May,2022	1,485	1,470	15	604,000,000	887,880,000,000	896,940,000,000	9,060,000,000
Jun,2022	1,490	1,470	20	810,000,000	1,190,700,000,000	1,206,900,000,000	16,200,000,000
Jul,2022	1,490	1,470	20	543,000,000	798,210,000,000	809,070,000,000	10,860,000,000
Aug,2022	1,493	1,470	23	834,000,000	1,225,980,000,000	1,244,745,000,000	18,765,000,000
Sep,2022	1,495	1,470	25	753,000,000	1,106,910,000,000	1,125,735,000,000	18,825,000,000
Oct,2022	1,493	1,470	23	758,000,000	1,114,260,000,000	1,131,315,000,000	17,055,000,000
Nov,2022	1,500	1,470	30	577,000,000	848,190,000,000	865,500,000,000	17,310,000,000
Dec,2022	1,535	1,470	65	860,000,000	1,264,200,000,000	1,320,100,000,000	55,900,000,000
Jan,2023	1,610	1,470	140	1,106,000,000	1,625,820,000,000	1,780,660,000,000	154,840,000,000
Feb,2023	1,548	1,339	209	1,030,000,000	1,379,170,000,000	1,594,440,000,000	215,270,000,000
Mar,2023	1,519	1,300	219	1,163,000,000	1,511,900,000,000	1,766,597,000,000	254,697,000,000
Apr,2023	1,414	1,300	114	844,000,000	1,097,200,000,000	1,192,994,000,000	95,794,000,000
May,2023	1,467	1,300	167	998,000,000	1,297,400,000,000	1,464,066,000,000	166,666,000,000
Jun,2023	1,476	1,300	176	673,000,000	874,900,000,000	993,105,720,000	118,205,720,000
Jul,2023	1,486	1,300	186	479,000,000	622,700,000,000	711,976,020,000	89,276,020,000
Aug,2023	1,500	1,300	200	738,000,000	959,400,000,000	1,107,000,000,000	147,600,000,000
Sep,2023	1,535	1,300	235	420,000,000	546,000,000,000	644,700,000,000	98,700,000,000
Oct,2023	1,510	1,300	210	312,000,000	405,600,000,000	471,120,000,000	65,520,000,000
Nov,2023	1,512	1,300	212	293,000,000	380,900,000,000	443,016,000,000	62,116,000,000
Dec,2023	1,499	1,300	199	297,000,000	386,100,000,000	445,173,300,000	59,073,300,000
average	1,381	1,331	50	566,000,000	768,909,137,931	801,441,793,103	32,532,655,172
max	1,610	1,470	235	1,163,000,000	1,625,820,000,000	1,780,660,000,000	254,697,000,000
min	1,193	1,200	-10	1,000,000	1,470,000,000	1,460,720,000	-3,308,500,000
S.T	140	124	76	277,752,130	415,897,947,149	443,290,870,633	56,891,640,832

Source/ Prepared by the researcher based on the reports of the Central Bank of Iraq

The trend of the price gap movement can be seen in Figure 1. It is clear that in 2019 and the beginning of 2020, the gap was negative, prices were good, and the dollar was available in the market. However, the decision to raise the exchange rate in 2021 confused monetary stability and created a state of fear in the Iraqi merchants that continued until the end of 2022 to return somewhat to stability in the unofficial market exchange rates until US sanctions were issued on the 14 largest Iraqi banks operating in the currency sale window, restricting the movement of the dollar, and confused government measures prompted the government to change the exchange rate again in March 2023 to increase the exchange rate gap balanced by dollar cash sales. The citizenry and the government became the most affected by the continued exchange rate gap.

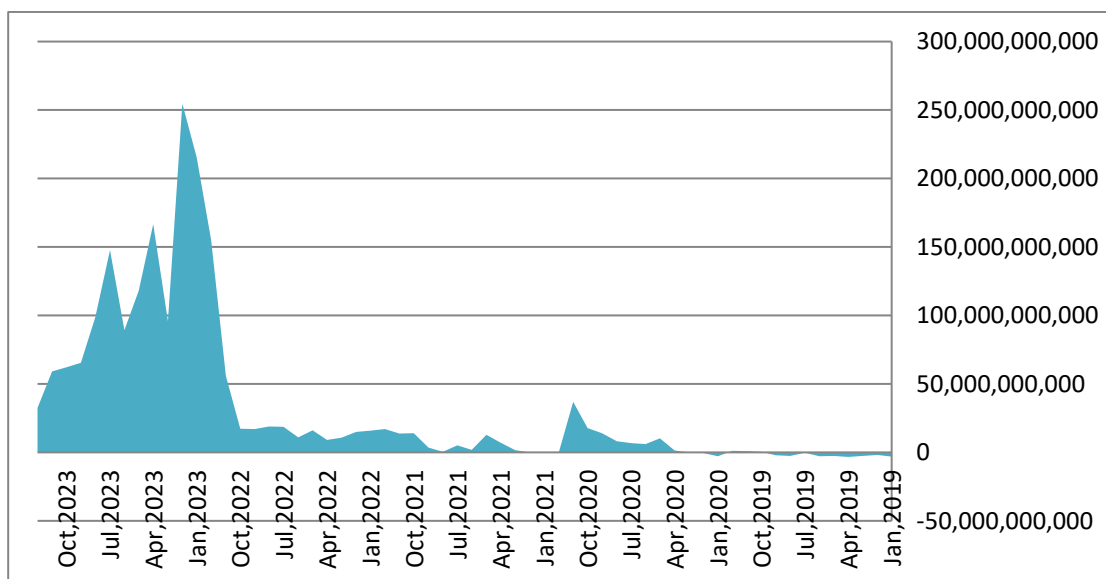


Figure (1) Exchange rate gap weighted by cash dollar sales 2019-2023

Source: Prepared by the researcher based on the data of the Central Bank of Iraq

4.2. Analysis of Iraq Stock Exchange Indicators

Table (2) shows the monthly views of both the general index of the market (x60), the index of the number of traded shares, and the index of trading volume, as well as the mean, standard deviation, and the highest and lowest value during the period of the study. To clarify further, the paragraph will be divided into two parts. The first relates to the analysis of the general index of the Iraq Stock Exchange, and the second relates to both indicators of the number of traded shares and trading volume.

Table (2) Indicators of the Iraqi Stock Exchange for the period 2019-2023

Date	isx60	Traded shares (million)	Trading volume (million) IQD
Jan,2019	492	67,171	28,629
Feb,2019	465	22,009	18,496
Mar,2019	452	56,656	23,904
Apr,2019	465	18,008	13,336
May,2019	494	32,315	14,855
Jun,2019	496	41,268	52,855
Jul,2019	480	73,609	41,081
Aug,2019	473	15,120	14,397
Sep,2019	475	6,486	7,523
Oct,2019	485	61,504	18,363
Nov,2019	486	29,888	34,008
Dec,2019	494	460,098	284,914
Jan,2020	481	27,739	45,562
Feb,2020	463	23,454	30,232
Mar,2020	445	21,537	39,455
Apr,2020	414	2,256	1,469
May,2020	425	8,428	7,153
Jun,2020	435	14,303	8,432
Jul,2020	452	16,094	8,630
Aug,2020	470	92,448	63,247
Sep,2020	484	108,286	66,191
Oct,2020	484	40,765	19,202
Nov,2020	481	35,477	28,166
Dec,2020	508	403,316	330,385
Jan,2021	484	26,278	18,928
Feb,2021	557	42,821	31,744
Mar,2021	566	64,376	34,130
Apr,2021	593	41,677	60,857
May,2021	571	191,809	183,365
Jun,2021	574	139,694	133,746
Jul,2021	575	6,019	8,915
Aug,2021	594	141,178	113,563
Sep,2021	588	171,166	115,488
Oct,2021	587	10,613	7,927
Nov,2021	552	23,677	25,880
Dec,2021	569	930,599	812,699
Jan,2022	577	45,374	48,610
Feb,2022	596	49,150	56,224
Mar,2022	596	85,466	61,851
Apr,2022	591	81,114	98,602
May,2022	574	70,910	69,307
Jun,2022	574	25,520	36,452
Jul,2022	572	15,042	11,992
Aug,2022	586	89,149	49,843
Sep,2022	605	44,906	25,439
Oct,2022	598	37,421	25,126
Nov,2022	586	19,362	19,841
Dec,2022	586	12,399	18,015
Jan,2023	612	71,414	62,230
Feb,2023	637	146,963	186,750
Mar,2023	641	8,353	11,410
Apr,2023	696	88,327	49,020
May,2023	629	43,212	33,300
Jun,2023	667	22,002	32,459
Jul,2023	717	27,270	30,056
Aug,2023	810	67,578	39,455
Sep,2023	836	19,362	24,825
Oct,2023	809	21,477	26,113
Nov,2023	881	84,525	93,059
Dec,2023	893	89,138	83,132
average	566	78,893	65,681
max	893	930,599	812,699
min	414	2,256	1,469
S.T	110	137,966	115,863

Source: Prepared by the researcher based on the data of the Iraq Stock Exchange

4.2.1 Analysis of the Iraq Stock Exchange Index (IX60)

Figure (2) shows the upward trend of the isx60 index during the study period despite the slight fluctuation, as it is clear from Table (2) that the mean of the index reached (566) with a standard deviation of (110), which means a medium and upward fluctuation compared to the difference between the highest value in December 2023 of (893) and the lowest value in April 2020 of (414) as a result of the Corona pandemic crisis.

However, despite the upward trend of the market index isx60, it must be verified whether the index reflects the reality of the economy and the growth of companies or reflects high inflation rates, and this will be discussed in the analysis of the two indicators of trading volume and the number of shares traded.

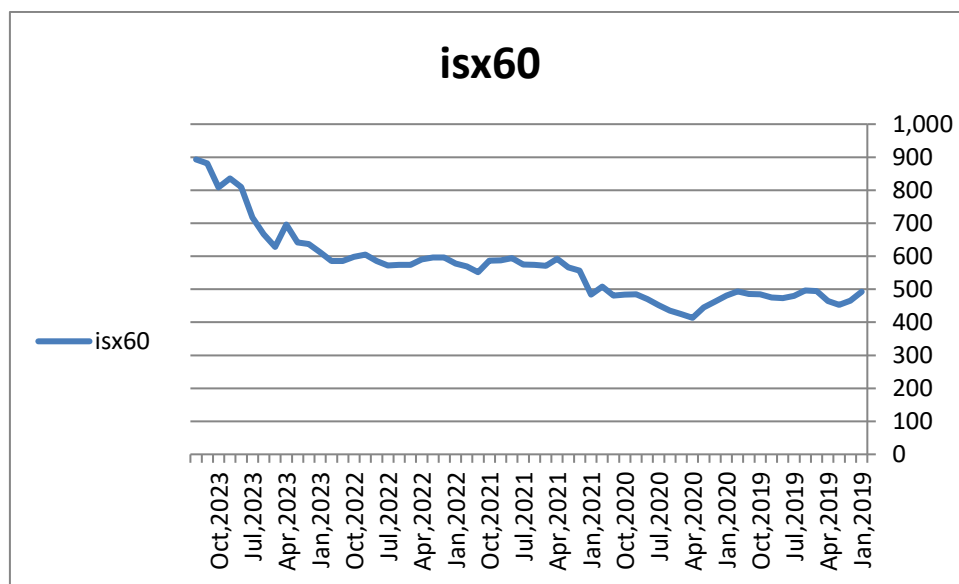


Figure (2) Iraq Market Index isx60 for the period 2019-2023

Source: Prepared by the researcher based on the data of the Iraq Stock Exchange

4. 2. Analysis of the indicators of the number of traded shares and the volume of trading

Figure (3) and Table (2) show that the indicators of the number of traded shares and the trading volume rose significantly at the end of 2019, 2020, and 2021, which were the highest values during the study period, as the index of the number of traded shares reached 930,599 million shares and the trading volume reached 812,699 million dinars. This rise is due to several reasons, including the start of economic activity after the Corona pandemic and the stability of the market somewhat after the stability of exchange rates.

Table (2) shows that the arithmetic mean of the index of the number of shares traded amounted to (78,893) million shares per month, with a standard deviation of (137,966), which means that there is a large variation in the index rates during the study period.

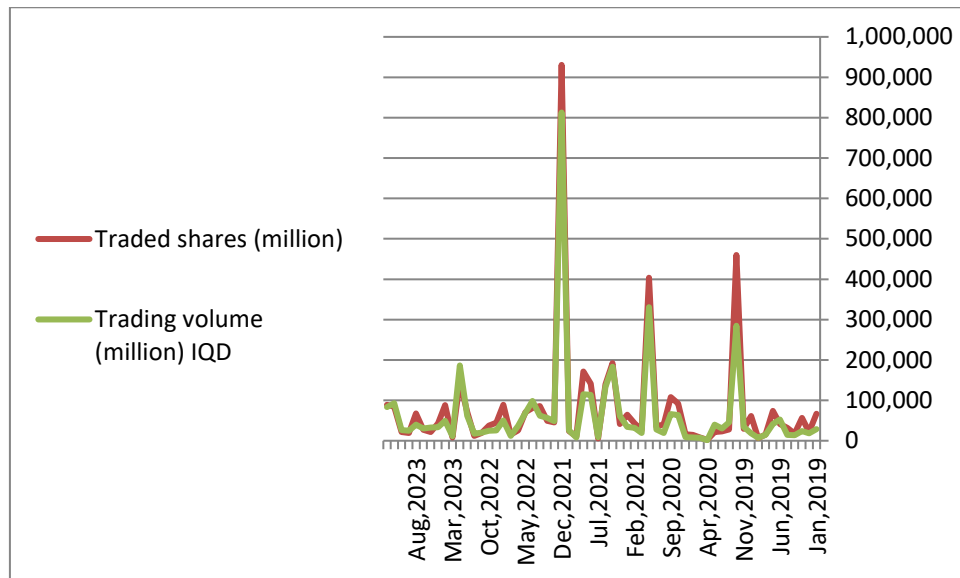


Figure (3) Index of the number of traded shares and trading volume for the period 2019-2023

Source: Prepared by the researcher based on the data of the Iraq Stock Exchange

As for the arithmetic mean of the volume index, it reached (65,681) million dinars with a standard deviation of (115,863) million, which is a large variation from the arithmetic mean, and this indicates the instability of investor activity within the market despite the upward trend of the market index.

5. Research Hypothesis Test:

The monthly data of the study variables for the period from January 2019 to December 2023 were relied upon, and simple linear regression analysis (simple linear regression) was used in addition to using the coefficient of determination (R²) to explain the effect of the independent variable (X dollar exchange rate gap) on the changes in the approved variable (Iraq Stock Exchange Y indices) in addition to the standard coefficient of regression beta, which measures the extent to which the adopted variable responds when the independent variable changes to one standard degree. The linear equation for multiple linear regression that has been adopted within the SPSS21 program is:

$$Y = a + b1X1 + e$$

In order to give an accurate decision on whether the study hypothesis is correct or not (there is no statistically significant effect of the dollar exchange rate gap in stock market indices), three agency sub-hypotheses were tested:

5. 1: Testing the first sub-hypothesis

H₀: There is no statistically significant effect of the dollar exchange rate gap on the ISX60 index.

H₁: There is a statistically significant effect of the dollar exchange rate gap on the ISX60 index. Table 3 shows the results of the variance analysis of the regression equation.

$$Y_1 = a + b1x1 + e$$

The estimated regression equation is:

$$Y_1 = 531.160704 + 0.561122X$$

Only 5.31% of the relationship between the isx60 index (Y₁) and the independent variable explains the dollar exchange rate gap (X), which is a good percentage that can be relied upon to support this by the possibility of rejecting the null hypothesis, which indicates that there is no statistically significant effect of the dollar exchange rate gap in the isx60 index if the level

of significance (F) = 0.000003. This means that there is a significant relationship between the ISX60 index (Y₁) and the independent variable dollar exchange rate gap (X).

Table (3) The impact of the dollar exchange rate gap in the isx60 index

Dependent variable Independent variable	(Y ₁)The Iraq Stock Exchange index variable isx ₆₀					
	A	Beta	(F)Calculated value	Significance level F	R ²	The Decision
		(b)				
Exchange rate gap variable	531.160704	0.561122	26.653981	0.000003	31.5%	Reject hypothesis H ₀

Source: Prepared by the researcher using SPSS_{v21}

From the above, it is clear that the first sub-hypothesis is accepted (there is a statistically significant effect of the dollar exchange rate gap in the ISX60 index).

5.2. Testing the second sub-hypothesis

H₀: There is no statistically significant effect of the dollar exchange rate gap on the index of the number of shares traded.

H₁: There is a statistically significant effect of the dollar exchange rate gap on the index of the number of shares traded.

Table 4 shows the results of the variance analysis of the regression equation.

$$Y_2 = a + bx + e$$

The estimated regression equation is:

$$Y_2 = 81828.075168 - 0.037308X$$

It explains only the amount of 0.139% of the relationship between the index of the number of traded shares (Y₂) and the independent variable, the dollar exchange rate gap (X), which is a weak percentage that cannot be relied upon by supporting this with the possibility of rejecting the null hypothesis, which is correct and which indicates that there is no statistically significant effect of the dollar exchange rate gap in the index of the number of traded shares (Y₂) as the level of significance (F) = 0.777172. This means that there is no significant relationship between the index of the number of traded shares (Y₂) and the independent variable, the dollar exchange rate gap (X).

Table (4): The impact relationship of the dollar exchange rate gap in the index of the number of shares traded

Dependent variable Independent variable	(Y ₂)NUMBER OF SHARES TRADED VARIABLE					
	A	Beta	Calculate (F)d value	Significance level F	R ²	The Decision
		(b)				
Exchange rate gap variable	81828.07517	-0.037308	0.080842	0.777172	0.139%	Accept the hypothesis H ₀

Source: Prepared by the researcher using SPSS_{v21}

From the above, it is clear that the second sub-hypothesis **H₁** is rejected, which states that there is a statistically significant effect of the dollar exchange rate gap in the index of the number of traded shares.

5.3. Testing the third sub-hypothesis

H₀: There is no statistically significant effect of the dollar exchange rate gap on the volume index.

H₁: There is a statistically significant effect of the dollar exchange rate gap on the volume index.

Table (5): The impact of the dollar exchange rate gap in the trading volume index

Dependent variable	(Y ₃)TRADING VOLUME VARIABLE					
	A	Beta	(F)Calculated value	Significance level F	R ²	The Decision
		(b)				
Exchange rate gap variable	65247.493	0.006556	0.002493	0.96035	0.0%	Accept the hypothesis H ₀

Source: Prepared by the researcher using SPSS_{v21}

Table 5 shows the results of the variance analysis of the regression equation.

$$Y_3 = a + bx + e$$

The estimated regression equation is:

$$Y_3 = 65247.493 + 0.006556 x$$

It explains what the amount of only 0.0004% of the relationship between the volume index (Y₃) and the independent variable, the dollar exchange rate gap (X), is, which is a weak percentage that cannot be relied upon to support this by the possibility of rejecting the null hypothesis, which is correct and which indicates that there is no statistically significant effect of the dollar exchange rate gap in the volume index (Y₃), as the level of significance (F) = 0.960350, and this means that there is no significant relationship between the volume index (Y₃) and the independent variable, the dollar exchange rate gap (X).

From the above, it is clear that the third sub-hypothesis **H₁** is rejected, which states that there is a statistically significant effect of the dollar exchange rate gap on the trading volume index.

6. Conclusions

The financial analysis's findings indicated that there is a significant discrepancy between official and unofficial exchange rates and that official exchange rates changed in less than two years, which had a detrimental effect on economic activity. Exchange rate speculation has been prevalent in Iraq's investment climate, leading to the emergence of financial and commercial enterprises. How to profit from fluctuations in exchange rates. Monitoring the indicators of traded shares, trading volume, and excessive volatility makes this clear. These metrics demonstrate the stock market's poor stability, which is a result of low investor interest. The increase in the general rate of prices as a result of the increase in exchange rates was reflected in the increase in the general index of the Iraq Stock Exchange, which showed an upward trend during the study period.

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