

RESEARCH ARTICLE

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Analysis of stock price fluctuations on the returns of companies listed in the Saudi financial market for the period from 2010 to 2022.

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Abstract:

The study reviews the performance of the Saudi financial market (Tadawul) during the period from 2010 to 2022, through indicators such as trading volume and value, number of transactions, and trading days, in addition to examining the returns of various sectors and the level of investment risks in stocks. The results indicated that the market was affected by global economic crises, such as the decline in oil prices, the COVID-19 pandemic, and the Russian-Ukrainian war, with a noted recovery following the implementation of precautionary and regulatory measures by the Capital Market Authority. The study also showed that the market offers diverse investment opportunities, with varying risk levels across sectors, where the banking sector was the riskiest, while the transportation, insurance, and telecommunications sectors were more affected by systematic risks. The study concluded on the importance of enhancing investor confidence, developing the market's technological infrastructure, and diversifying investment portfolios to reduce risks.

Keywords: Stocks, Return, Risk, Financial Market, Prices.

JEL Classification: G10, G11, G12, G13, G17.

1. Introduction:

Stock markets are an essential axis in the economy, and represent one of the most important means of raising capital and directing it towards companies and projects, as companies have the opportunity to finance through issuing and trading shares, and investing in shares is considered one of the main activities in the field of financial investment for any country that has an organized stock exchange. It operates in accordance with legislation and laws, as investment decisions affect the investment situation, which prompts investors to resort to the money market to borrow in bank loans, whether long or short-term, or resort to financial markets through the issuance of bonds or shares of various types, as the investor focuses when choosing which... A source of financing based on the expected return and the financial cost incurred. Stocks are considered one of the most important sources of long-term financing used in the financial market because of their significant impact on investment. They are also characterized by fluctuations in the degree of risk, which are offset by fluctuations in return due to fluctuations in stock prices. The latter plays a major role in determining

the financial position and financial stability of companies. Recorded, it also reflects the market's interaction with economic, political and financial events, as a rise in stock prices can increase the value of companies' assets and lead to directing additional investments towards expansion and growth, and on the other hand, a fall can reduce financing and weaken the ability to invest.

In this study, we will try to shed light on the impact of changes in stock prices in the Saudi financial market on market returns and some active sectors in it during the period 2010 to 2022, by studying and analysing the performance and development of the market during this period, relying on a set of indicators to measure market performance and studying the status of stock price fluctuations. A group of companies representing five different sectors active in the Saudi financial market. This may help give an idea of the financial position of these institutions and even the market, which enables one to judge the degree of activity and depth of the market. The study also focuses on price changes with the aim of determining the expected return and potential risks from through a set of statistical and financial tools and methods that help to do this, and therefore the following problem can be raised:

How do stock price changes affect the returns of companies listed in the Saudi financial market?

In order to answer this problem, we decided to divide it into sub-questions as follows:

1. What is the impact of stock prices on investment returns in the Saudi financial market?
2. What nature Relationship Causality between Prices Stocks and expected returns on investments in the financial market Saudi?

Research assumes: In order to answer the problem of the study, we attempt to test the following hypotheses:

1. Stock prices in the Saudi financial market are subject to local economic factors that determine and influence them.
2. Since the Saudi economy depends to a large extent on oil, its price fluctuations have a positive or negative impact on the share prices of institutions listed on the stock exchange for various economic sectors..
3. There is a long-term relationship between stock prices and returns in the Saudi market.
4. The relationship between stock prices and expected returns is one of influence, not influence.

The importance of studying:

The importance of the subject of the study lies in the fact that the Saudi financial market is one of the most important vital emerging markets that plays an important and effective role in the Saudi and global economy, in addition to showing the relationship between stock prices and their expected returns on the Saudi Stock Exchange for the period 2010 to 2022, as this period witnessed several fluctuations and changes in... The global level in general due to successive crises from the decline in oil prices to the Covid-19 pandemic and finally the...Conflicts and wars and its repercussions on the global economy in general and the Saudi financial market in particular, and in the end it can Interpretation and analysis of crises and shocks that affected stock prices in oil-producing countries in general and in the Saudi financial market in particular.

Objectives of the study:

1. Testing the nature and direction of the relationship between stock prices and investment returns in the Saudi market.
2. Highlighting the relationship between the stock prices of various economic sectors and expected returns.

3. Studying the relationship between return and risk in the Saudi financial market.
4. Know the effects of stock price fluctuations on the Saudi financial market.
5. Revealing the nature and direction of the relationship between the two variables and the relationship between them.

The limits of the study:

1. Spatial boundaries of the Saudi financial market in the Saudi Arabia.
2. Was used Annual price data Closes and returns on the stock exchange during the period 2010-2022.

The methodology used and the tools used:

Based on the nature of the problem at hand and in order to reach the desired objectives of the study, and with the intention of familiarizing ourselves with all aspects, we will try to use the methods adopted in financial and economic studies. Accordingly, the method used will be descriptive, in the first axis in which we touched on general concepts about stock prices and returns. As for the second axis, it we used the analytical approach using statistical tools and programs to measure return and risk.

2. Conceptual framework of stock prices and returns.

1.2 General concepts about stock price:

1.1.2 Definition of stock: Shares are considered one of the most important securities traded in the stock market and the most frequently dealt with by investors.

First definition: It is a paper Finance It proves that its holder owns a portion of the capital of the institution that issued it, while benefiting from all the rights and bearing all the burdens that result from owning this paper.(Latrash, 2005, p. 82).

Second definition: Stocks are rights Property On the company issuing it (Mishkin, 2007, p. 40).

Third definition: Shares are considered the capital subscribed and provided by investors, which includes their financial contribution and determines their ownership of the company. The total value of the shares acquired by investors is expressed in terms of declared capital, actual capital or contributed capital.(Laqouqi, 2019, p. 11).

Fourth definition: A group of instruments of equal value, negotiable, which represent the right of the shareholder in the company in whose capital he contributed, and in this capacity the exercise of his rights in the company is transferred to especially his right to receive profits (Al-Muhaisen, 2008, p. 143).

Fifth definition: It is a financial document that proves a person's ownership of part of the capital of the company that issued it, which gives him rights in the company and makes him responsible for the financial obligations related to this share.(Metwally, 2010, p. 147).

Sixth definition: instrument Represent Part of the capital of a money company and it proves the owner has rights Partner (i.e. shareholder), this word is used also To refer to shares of investment companies, Synonym: common share in a company (Antoine, 2010, p. 12).

Through the previous introduction, we conclude that a share is an ownership instrument that represents a share in kind or in cash in the company's capital. It represents the ownership right of the subscriber, is tradable, and gives its owner special rights.

2.1.2 Types Stock: It is divided into several types, perhaps the most important of which are:

First: On the basis of the rights it entails for its bearer

A- Ordinary shares: There are many definitions that have attempted to give a clear definition of common stock, the most important of which is follows:

Ordinary stock is considered the first instrument issued by the company, and in the event of liquidation of its properties, it comes last on the list to pay obligations. Its

owners hold a share in the ownership of the company, and they have the lowest priority in obtaining returns, as preferred stock holders and bond holders outperform them in terms of priority in obtaining returns. Profits and they also have the right to vote in board meetings and participate in administrative decisions.

Ordinary shares go through two stages in dealing, as public subscription takes place in the primary markets in the first stage, which contributes to increasing the company's capital. In the second stage, these shares are traded as an investment tool in secondary markets at prices affected by supply and demand factors (Al-Shudaifat, 2006, p. 86).

Ordinary shares are considered one of the most important types of shares issued by joint-stock companies, and their holders mainly represent the owners of the capital and the company. When the company is liquidated, they have the right to claim their rights after fulfilling the rights of bonds and preferred shares, and therefore they do not have a maturity date.(Hameidat and Hayat, 2019, page 129).

It is also known as «A certificate of ownership that gives its owner the right to obtain part of the company's assets. It has no maturity date, but it can be traded in the financial market until it is repurchased by the company or in the event of the company's dissolution and liquidation (Abdel Moneim and Al-Issa, 2004, p. 113).

B- Preferred shares: It is considered a type of stock, but differs from ordinary stocks in some aspects Several and thus can be defined «They are shares that give their owners rights of a higher rank than those they grant Ordinary shares such as priority in obtaining dividends, or an increase in the number of votes held by the holder in The General Assembly or priority in receiving the value of the shares from the company's funds upon liquidation" (Jabr, 2007, p. 40).

It is also known as: Stocks that companies resort to when they try to motivate investors to subscribe by contributing to expanding their capital and financing their new projects or facing some of their financial difficulties (Marouf, 2003, p. 100).

3.1.2 The difference between common and preferred shares: It is possible to differentiate between ordinary and preferred stocks through the following points:

A. Preferred stockholders have a priority right over ordinary stockholders to receive distributed profits. They also have a priority right with respect to funds resulting from the liquidation of the company's business in the event of liquidation.(Laqouqi, 2019, p. 15).

B. There is usually a maximum limit on the amount of return that a holder of preferred stock can receive, with the percentage of his dividends being determined by a certain percentage of the value of the stock that is explicitly stated in the issuance contract.

C. Preferred stock holders often do not have permanent voting rights, and they do not participate in the management of the company.

D. Deferred shares: unless deferred shares are those that usually vest Designated for founders and those promoting new shares as they are issued, y It is called "deferred" because it does not realize its share of the dividend until the fellow stockholders are paid off Install a certain percentage of capital first (Al-Jarhi, 1989, p. 113).

Second: On the basis of the form of issuance and the method of trading according to this criterion, it is divided into three sections:

A- Nominal share: This share is issued in the name of its owner, recorded in the certificate, and is also registered in his name in the company. Trading it and transferring ownership of this share requires registration in the shareholders' register of the issuing company (Siyam, 1999, p. 211).

B- The stock is for permission or order: In this type of stock, the name of its owner is mentioned in conjunction with the warrant condition, and his ownership is transferred without the need to return to the company.

C- Bearer shares: A share belongs to the bearer when it is issued with a certificate that does not bear the name of its owner. Ownership of this type of share is acquired as soon as it is received. Most corporate laws prohibit the issuance of this type of share due to the possibility of it being stolen or lost.

4.1.2 Factors affecting stock prices:

External factors: It can be limited to follows:

1. **Exchange rate:** The decline in the currency exchange rate prompts investors in securities to sell them and buy securities with a high exchange rate that will bring them profit.(Hindi, 2002, p. 5).

2. **Interest rate:** Stocks in the markets are greatly affected by interest rates, whether they rise or fall, but this effect has an inverse effect on stock prices, as high interest rates lead to bringing a lot of savings towards cash deposits, so the demand for purchasing them declines, which leads to a decline in their prices.

3. **Inflation:** Which means an increasing and continuous rise in prices with a decrease in purchasing power, meaning that when the price rises and purchasing decreases, there is inflation (Al-Shawara, 2008, p. 50). Accordingly, the effect of inflation on prices appears in the decrease in enterprise sales resulting from a decrease in purchasing power and thus affects investors' expectations.

4. **Fiscal policy:** These are the policies and procedures that the state takes to finance its government spending. Examples of this include government taxes, which are considered the most effective means of doing so, as increasing taxes on companies leads to a decrease in the profits of the latter and thus a decrease in the stock prices of those companies in the financial markets.

5. **Size of national product:** The increase in economic activity prompts investors to be optimistic about the market situation in the future, which affects the rise in stock prices as a result of increased demand for them. However, if an unexpected increase in prices occurs, the national product in this case is in a state of inflation, which affects the performance of the financial markets.

Internal factors: Among the new mention:

1. The quantity and quality of information available to investors and in the market about the stock (Al-Shura, 2017, p. 452).

2. The past performance of the stock, i.e. the history of the stock's past performance, can affect investors' decisions and expectations for the future.

3. Changes in government policies and legislation can affect companies and therefore share prices.

4. The amount of stock supplied in the markets according to the law of supply and demand, Liquidity and trading volume in the market can affect stock price fluctuations.

5. Realized and potential market returns.

6. The behaviour of market participants and the rate of return required by investors to hold the stock.

7. The company's reputation, the decisions of its administrative staff, and the prevailing conditions within it.

8. Trader behaviour and regulatory conditions within the financial market.

9. If acquisitions are made or mergers in the market, this can affect stock prices, as investors' orientation towards the companies in question can change.

10. Psychological factors play an important role in the fluctuations of stock prices in the stock exchanges because they are based on the information that reaches the market. The trader in the market buys based on good or unpleasant information, because sometimes some speculators resort to promoting rumors for the purpose of directing exchanges towards specific categories in order to seize Opportunities, especially if

traders are inexperienced or behave like herds, which is reflected in the performance, efficiency and smooth functioning of the stock exchange.

2.2 Definition of return and its types:

1.2.2 Definition of earnings per share: Return is considered a basic indicator for investing in common stocks, as it is an appropriate measure for arranging common stocks and comparing them. It is defined as the reward that the investor obtains when investing his money in common stocks, either in the form of a cash dividend determined by the company's management according to its profits and cash liquidity, or in the form of a dividend, But the timing of this return is subject to the company's distribution policy and the nature of legislation in the country in question (Al-Tamimi and Salam, 2004, p. 45).

2.2.2 Types of stock returns:

Several types of stock returns can be distinguished, including: Next:

a- Regular rate of return: It is the return that the investor actually achieves as a result of owning or selling an investment instrument, and it is the share of the distributed profits.D1 is added to the difference between the final value, P1, and the initial value, P0, and the result is divided by the initial value, P0, as shown in the following equation.(Bin Mansour, 2017, p. 26):

$$NRR = \frac{(P_s - P_B) + D_t}{P_B}$$

Where:

NRR: Actual return per share

D_t: Dividends per share during the holding period (t).

P_s: the selling price of the stock,

P_B: Purchase price of the stock.

B- Required rate of return:

It is the return that the investor wishes to obtain and is consistent with the level of risk to which the asset or investment instrument will be exposed. It represents the lowest return that compensates the investor for the process of postponing receipt and the degree of risk associated with the investment.(Bin Mansour, 2017). It is estimated by relying on the capital asset pricing model equation (Haddad, 2009, p. 132), the required rate of return is measured using the capital asset pricing model, according to the following formula (Bin Mansour, 2017, p. 32):

Required rate of return= Risk-free return + (risk premium X systematic risk factor)

$$E(R_I) = R_F + B_I(R_M - R_F)$$

Where:

E(R_I): The required rate of return.

R_F: The risk-free rate of return

R_M: Market rate of return.

R_MB_I: The rate at which systematic risks are measured.

C- Expected rate of return:

It is the expected value of the returns that are likely to occur when investing, which are the amounts that the investor feels that he will receive according to the information available to him, and here it indicates Lasher refers to a state of uncertainty in which it is difficult to easily determine the expected investment return. Therefore, the investor seeks to estimate the return, as this helps him estimate the risks sure rounding this return.(Hameidat and Hayat, 2019, page 38). It is calculated according to the following equation (Bin Mansour, 2017, p. 31):

$$\overline{R_A} = E(R_A) = \frac{\sum_{t=1}^n R_t}{N}$$

Where:

R_A : The expected rate of return for a financial asset(A); R_t: the actual or realized return in period t.

N: The number of periods during which the return was achieved.

D- Return on the holding period: The holding period means the period of time during which financial or real assets are kept for the purpose of investment in the hope of achieving future returns. One of the advantages of this return is that it allows us to compare different financial assets and select the best one that achieves the best return for investors. The return of the holding period of a financial asset is measured. Determined by calculating the difference between the change in prices plus the distributions on profits related to that period (Ahmed, 2007, p. 11)The following equation explains this:

$$R_i = \frac{(P_t - P_{t-1}) + D_t}{P_{t-1}}$$

Where:

R_i: Rate of return over the holding period.

D_t: Net profits distributed during the period t.

P_t: The price of the asset at the end of the period t (selling price)

P_{t-1}: The price of the asset at the end of the period t-1 (purchase price).

3. The impact of stock price fluctuations on investment returns in the Saudi financial market.

1.3 Development of the Saudi financial market:

The history of trading in Saudi Arabia dates back to the mid-1930s, when it was established "Arabian Automobile Company", as the first joint stock company in the Kingdom of Saudi Arabia, and the regular expansion of economic markets and the introduction of local ownership of part of foreign banks led to the emergence of corporate market activities until the Authority was established on June 16, 2003, and on March 19, 2007 the Council of Ministers approved the establishment of The Saudi Financial Market Company "Tadawul" in accordance with Article 20 of the Financial Market Law, which explicitly states that "a market for trading securities shall be established in the Kingdom called (the Saudi Financial Market), whose legal status shall be a joint stock company in accordance with the provisions of this Law, and this market shall be the sole entity" "It is authorized to practice securities trading in the Kingdom" and is concerned with jobs(Annual Report 2012, p. 22).

With the passage of years, the significant expansion of the local economy, and the need for companies to reach a wide segment of investors, the total amounted to a Bicycle in the main and parallel market for 272 companies, securities and debt instruments, where 192 companies were listed in the main market and 10 companies in growth.

-Parallel market- 67 debt instrument issues and 03 listed ETFs by the end of the first half of 2019.

Sectors in the financial market are classified according to the international standard for sector classification GICS, which was implemented in January 2017, includes 20 sectors that include: energy, basic materials, capital goods, commercial and professional services, transportation, long-term goods, consumer services, media, luxury goods retail, food retail, food production, health care, pharmaceuticals, banking, investment and finance, insurance, communications, public utilities, real estate traded funds, and management, and real estate development.

2.3 Objectives of the Saudi financial market:

The system of services provided by the Securities Depository center Company aims to provide added value to all parties to the investment process and the Saudi financial market as a whole, through:

- a. Educating investors about their investment rights and increasing their level of confidence and transparency regarding their financial assets.
- B. Activating the role of investors in general by enabling them to vote, and be informed about profit entitlements, and provide them with reminders and periodic notifications about the most important relevant events.
- T. Contributing to bridging the gap between listed companies and their shareholders by developing the communication mechanism between them. The providing a wide and diverse range of reports in an easy and secure manner through the primary source of information money bills.
- C. Providing a continuous mechanism to verify the data stored with us "Tadawul" and updated.

3.3 Development of the performance of the Saudi financial market:

In this title, we attempt to study the performance of the Saudi financial market during the period 2010 to 2022 by focusing on the following indicators: trading volume (number of shares), share value, number of transactions, trading days and stock price index, according to the following table.

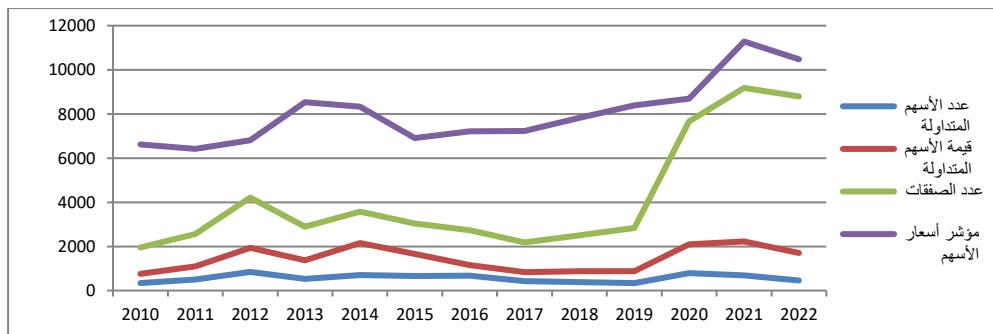
Table (01): Development of Saudi financial market performance indicators from 2010 to 2022.

Number of trading days	Stock price index	Number of trades (million deals)	Value of traded shares (billion riyals)	Number of shares traded (billion shares)	the years
249	6620,7	19,536	759,18	34,237	2010
248	6417,7	25,546	1098.83	49,614	2011
251	6801,2	42,105	1929,31	84,400	2012
248	8535,6	28,967	1369,66	53,527	2013
250	8333,3	35,761	2146,51	70,803	2014
251	6911,8	30,44	1660,62	65,996	2015
249	7210,4	27,27	1156.98	67,730	2016
250	7226,3	21,89	836.28	43,298	2017
249	7826,7	25,01	870,87	37,820	2018
250	8389,2	28,40	880,14	33,800	2019
251	8689,5	76,69	2087,80	79,323	2020
250	11282	91,87	2223,59	68,51	2021
249	10478	87,90	1708.04	45,11	2022

Source: Prepared by researchers based on the annual trading bulletins of the Saudi Stock Exchange during the study period.

The following figure shows the development of the performance of Saudi financial market indicators during the study period:

The shape (01): Development of Saudi financial market performance indicators from 2010 to 2022



Source: Prepared by researchers based on the annual trading bulletins of the Saudi Stock Exchange during the study period.

From the figure above, we notice that the Saudi financial market witnessed clear changes in its performance during the last decade. In the first four years from 2010 to 2012, the market rebounded compared to the years following the mortgage crisis in 2008, when the value of traded shares increased by 69 percent%, this had an impact on the recovery of all market indicators, and perhaps this was due to the increase in profits achieved in the companies listed in the market for those companies. The years were accompanied by an increase in the number of concluded deals, with net realized profits recording an increase of 64.63 % comparison With the year 2010, and in the year 2013, it began to decline until 2019, when the rate of decline reached 26 %, bringing the number of shares traded to 33.8 billion shares, worth 880.14 billion riyals, with a decline in the number of transactions. The reason for this is the collapse in global oil market prices, which had a significant impact on the turnover rate and trading volume in the Saudi market. This is due to investors' fear of a collapse. The value of securities, which explains the decline in the value of traded stocks and the decline in the number of transactions, which we notice in the changes and fluctuations occurring in the curve of the stock price index, which moves parallel to the curves of the rest of the indicators. The dividend policy also had a significant impact on the trading volume in the Saudi financial market and in the stock markets in general, through the following effects:

Changes in stock prices: When a company announces a generous dividend or an increase in dividends, this news can increase the attractiveness of the stock to investors. This can increase demand for the stock and thus raise trading volume.

Date of acquisition of the stock: As mentioned in the previous text, investors must hold the stock until the date of its acquisition to receive the dividend. This can reduce the number of shares available for trading before the vesting date, which increases the value of the stock and trading volume.

Investor expectations: If investors have positive expectations about a company's future dividends, they may have an additional incentive to engage in and increase trading volume.

Market stability: Steady and reliable dividends can help stabilize financial markets, encouraging investors to engage in trading more.

Starting from the year 2019 to 2021, the Saudi financial market returned to recovery again through an increase in traded shares and thus increasing their value with an increase in the number of transactions, and the reason for this is the measures followed by the Saudi Financial Market Authority to emerge from the crisis of the collapse of oil prices and the Covid 19 pandemic, of which we mention what follows:

- Urging financial market institutions to follow preventive measures against infection with the virus.
- Reducing daily trading hours in the financial market.

- Suspending the holding of assemblies for listed companies in person until further notice and holding them via modern technology remotely.
- Extending the deadline for disclosing the initial financial statements of listed companies whose initial financial periods end on 2/29/2020 AD and 3/31/2020 AD.
- Extending the deadline for disclosing annual reports for public and private investment funds.
- Exempting listed companies from paying the financial fees collected to the Authority for one year and issuers of debt instruments until the end of 2025 AD.

Promoting remote electronic work and suspending attendance at workplaces, taking into account:

- Stopping trading halls, marketing services and direct sales, not receiving clients/potential clients at the headquarters of the market institution, and limiting the provision of services and products through electronic and telephone channels only..
- Notify all clients/potential clients about it through available means.
- Educating and motivating clients/potential clients through various means to implement their operations and transactions using electronic and telephone channels to preserve their safety and the safety of employees and workers in the market institution.
- Continuously monitor the performance of electronic and telephone channels, ensure their operational efficiency, and raise the level of cyber monitoring of various systems and channels and readiness to respond to any malfunction, failure or cessation in the systems and channels.

In 2022, the market's performance declined again, and perhaps the reasons for this lie in...Follows:

- The remnants of the global health crisis and the Russian-Ukrainian war and the resulting uncertainty regarding the global economic recession and the repercussions of raising interest rates 7 times coinciding with the Federal Reserve's decision.
- Oil price fluctuations Several OPEC Plus decisions were issued coinciding with events in the petroleum market the latest is to reduce crude oil production by two million barrels per day beginning in November 2022 maintaining the decision at the December meeting.
- During the year 2022, the main Saudi market witnessed the listing of 17 companies, including the first double listing, and the approval to offer 4 other companies.
- During the year 2022, the Tadawul Group implemented new improvements to develop the post-trading infrastructure and increase its efficiency. Single stock futures contracts were also launched, the market maker framework for equity and financial derivatives markets was launched, and the rules for offering securities and continuing obligations were amended to regulate an additional option to increase capital from during the assurance of shares without priority rights.
- The Custodian of the Two Holy Mosques issued some royal orders approving the allocation of financial support in a total amount of 20 billion riyals to confront the repercussions of rising global prices, and the appointment of Crown Prince Mohammed bin Salman bin Abdulaziz as Prime Minister, and the Council was reconstituted under his leadership.

3.4 Studying the return on investment in stocks in the Saudi capital market:

3.4.1 Return on investment in stocks:

There are several ways to calculate the return, including using the logarithm, where the return in this case represents the logarithm of the current price over the logarithm of the previous price. The other method, which we will adopt in determining the returns for the selected sectors during the period studied, is determined through the following relationship:

$$R_i = \frac{(P_t - P_{t-1})}{P_{t-1}}$$

Where:

P_t : represents the average stock prices for the relevant year for institutions belonging to the sector.

P_{t-1} : It represents the average stock prices for the past year of institutions belonging to the sector.

The following table shows the returns for shares of five sectors on the Saudi Stock Exchange during the study period the market is reached through the following relationship.

$$\frac{\sum_{i=1}^n R_i}{N}$$

Where you cross R_i On the sector's revenue in the year in question, either N_{lt} represents the number of sectors.

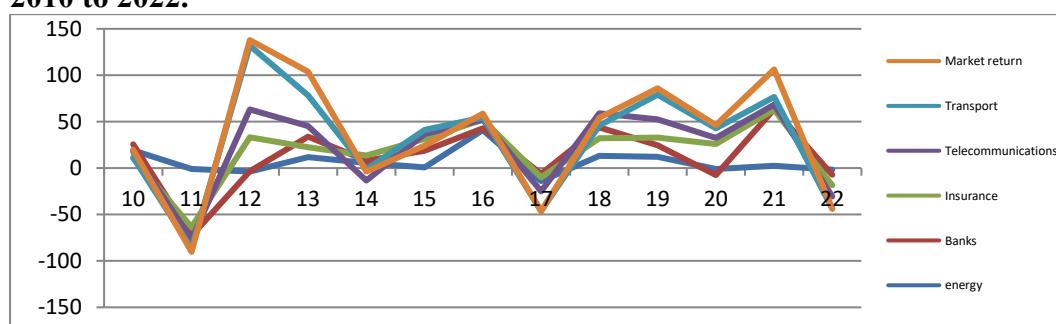
The following table shows the returns of the sectors concerned with the study and the market returns during the study period:

Table (02): Stock returns in the Saudi financial market from 2010 to 2022.

Market return	Sectors					The years
	Transport	Telecom	Insurance	Banks	energy	
8,15	-5.87	7,21	-15,48	6,59	19,15	2010
-3,7	-9.87	-13,12	9,34	-72,12	-0.82	2011
5,98	68,81	29,74	36,63	0,44	-3.74	2012
25,50	33,12	22,74	-11,34	21,99	11,87	2013
-2,37	11,83	-26,91	5,70	2,51	5,40	2014
-17,06	4,35	5,27	12,68	17,96	0,84	2015
4,32	2,30	-1.81	9,18	1,93	40,98	2016
-0,54	-21,00	-15,00	-4,00	8,00	-14,00	2017
8,31	-13,00	27,00	-12,00	31,00	13,00	2018
7,19	26,40	19,80	8,10	12,40	12,20	2019
3,58	10,19	6,57	33,48	-6,40	-1,02	2020
29,83	8,08	5,5	-0.57	61,05	2,38	2021
-7,12	-13,23	-12,22	-11,24	-5,56	-1,60	2022
62,07	102,11	54,77	60,48	79,79	84,64	the total
4,774	7,854	4,213	4,652	6,137	6,510	The return

Source: Prepared by researchers based on the annual trading bulletins of the Saudi Stock Exchange during the study period.

Figure (02): Evolution of sector stock returns in the Saudi financial market from 2010 to 2022.



Source: Prepared by researchers based on the annual trading bulletins of the Saudi Stock Exchange during the study period.

From the previous figure, we note that the returns achieved by the various sectors during the period studied It experienced various fluctuations, ups and downs, and the best return was for the transportation and banking sector in 2012 and 2021. At a rate of 68.81% and 61.05%, respectively, and the largest loss was achieved by the banking and communications sector the return achieved for the years 2011 and 2014 was at a rate of -72.12%, -26.91%, as a result of a decline in prices stocks in those years. The first was due to the external debt crisis and the second was a result of the decline in the general levels of oil prices, given that Saudi Arabia was one of the largest oil exporting countries at a rate of 10 million barrels per day, which...Note the negative market returns in those two years, as the latter also witnessed losses in returns in 2017 at a rate of -17.06%, as the impact of the collapse of oil prices had an impact on the trading volume this year, and consequently the decline in stock prices, which led to a decrease in the overall returns for the selected sectors. All sectors under study, including the market, also witnessed a decline in returns for the year 2022, so the highest loss achieved was in The return from the share of the transportation, communications, and insurance sectors is at rates of -13.23%, -12.22%, and -11.24%, respectively. This decline is due to the impact of the global health crisis of the Covid-19 pandemic and the resulting decline in trade exchanges and the closure of ports and airports, in addition to the Russian-Ukrainian war and other It resulted in a terrible rise in the general levels of prices, especially foodstuffs, despite the improvement and recovery in oil market prices. This was reflected in the market value of shares traded in the market. The average market value decreased by 18% for the year 2014. This shows the degree of sensitivity of the Saudi market and the listed sectors to the changes occurring in the global economy due to the close connection with The outside world, and this is what we will try to explain in the next point by determining the degree of risk.

3.4.2Risks of investing in stocks: At this point we will define the risks through Addressing the calculation of the standard deviation and the systematic risk factor, which shows the degree of risk sensitivity, is expressive It is estimated in the beta coefficient, in addition to determining the correlation coefficient and the determination coefficient in order to control risk rates the degree of vulnerability to events that occur in the market, the correlation coefficient is determined through the following relationship(Hameidat and Hayat, 2019, page 38):

$$r = \frac{\sum (R_{Ai} - \bar{R}_{Ai})(R_m - \bar{R}_m)}{\sqrt{\sum_{i=1}^n (R_{Ai} - \bar{R}_{Ai})^2} \sqrt{\sum_{i=1}^n (R_m - \bar{R}_m)^2}}$$

Where:

R_{Ai} : The annual return on investing in a specific sector stock.

R_m : The expected return on investing in a sector stock with m.

\bar{R}_{Ai} : Annual market return.

\bar{R}_m : Expected market return M.

The following table shows the risks resulting from investing in stocks, as follows:

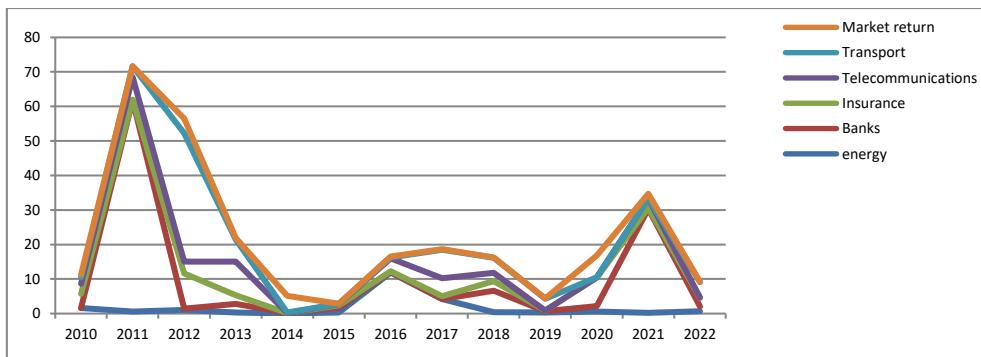
Table (03): Risks of investing in stocks in the Saudi financial market

Market return	Sectors					The years
	Transport	Télécommunications	Insurance	Banks	energy	
0.7174 09	1,88238 4	3,003289	4.05216 9	0,00211 6	1,59769 6	2010

0.0146 41	3,13998 4	6,517809	0.21996 1	61,2306 25	0.53728 9	2011
4,2973 29	37,1612 16	3,433609	10,2272 04	0.32376 1	1.05062 5	2012
0.5097 96	6,38572 9	9,684544	2,55680 1	2,51539 6	0.28729 6	2013
4,7654 89	0.15840 4	0.011236	0.01102 5	0.13104 4	0.01232 1	2014
0,0020 25	0.1225	0.362404	0.64480 9	1,39948 9	0.32148 9	2015
0.2819 61	0.30802 5	3,690241	0,20520 9	0.1764	11,8818 09	2016
0.1253 16	8,32322 5	5,193841	0.74822 5	0.03496 9	4,20660 1	2017
0.0585 64	4,34722 5	2,430481	2,77222 5	6,18516 9	0.42120 1	2018
0.0141 61	3,44102 5	0.055696	0.11902 5	0.39312 9	0.32376 1	2019
6,2800 36	0.05475 6	0.016641	8,31168 9	1,57000 9	0.56700 9	2020
1,4137 21	0,00052 9	2,699449	0.27248 4	30,1620 64	0.17056 9	2021
0,1102 24	4,44366 4	0.087616	2,52492 1	1,36656 1	0.65772 1	2022
18,590 67	69,7686 7	37,186856	32,6657 5	104,124 2	22,0354	the total
11,96	23,16	16,91	15,85	28,48	13,02	Risk
100	57,74	65,55	57,75	-59,31	-37,614	Factor B
100	29,8	46,35	67,56	-24,9	-34,55	Corrélation coefficient r
1	97,37	98,60	98,77	96,03	99,17	The coefficient of determination R ²

Source: Prepared by the researcher based on the annual trading bulletins of the Saudi Stock Exchange during the study period.

Figure (03): Evolution of investment risks in stocks in the Saudi financial market for the period 2010 - 2022



Source: Prepared by the researcher based on the annual trading bulletins of the Saudi Stock Exchange during the study period.

It is noted from Figure 03 above that the Saudi financial market experienced different degrees of risk in various sectors. It is noted that in the years 2011, 2016, 2017 and 2021, all sectors experienced an increase in risk, except for the energy sector, where the risk was high in the year 2016 only, which was related to... By achieving excellent returns, which were noted before, the risk of the banking sector in 2011 was rather large, reaching 61,23 %, achieving the largest negative returns ever during the study period at a rate of -72,12 %, while the risk of the transportation sector in 2012 was relatively high and achieved the largest returns estimated at 68,81 % compared to other sectors over the study period.

It is also noted that the sum of the risk of all sectors is greater than the sum of the market risk, so that the banking sector was greater Ha Total risk throughout the study period exceeded one, followed by the transportation sector with 0,69.

It is also noted the convergence in the average risk scores between sectors during the study period, which is expressed in the standard deviation with an average risk of 18,23 %, as the banking sector achieved the highest degree of risk at a rate of 28,48 %, which confirms the high degree of sensitivity of the sector to changes occurring in the market through the beta coefficient -0,5931 And a negative correlation coefficient of 24,90 % between the market return and the banking sector return, with explanatory power expressed in the coefficient of determination R2 at a rate of 96,03 %, which explains that the banking sector is greatly affected by the unsystematic risks that arise in the market. The same thing is observed in the energy sector, which achieved a negative correlation coefficient between its returns and the return the market, which confirms the degree of its sensitivity and vulnerability to unsystematic risks that arise in the market in which it operates.

While the rest of the sectors, such as insurance, communications, and transportation, achieved similar levels of risk, which also confirms their sensitivity to changes occurring in the market through beta coefficients of 0,1585 %, 0,1691 %, 0,2316 %, with positive correlation coefficients of 0,6756, 0,4635, and 0,2980, respectively, which shows that these sectors are significantly affected by systemic risks, unlike the banking and energy sectors, with a very large explanatory power expressed by the R2 coefficients of determination at rates 98,77 %, 98,60 %, 97,37 %.

4. Conclusion:

The Saudi financial market, Tadawul, is considered one of the best emerging financial markets in the world, and the first in the world with me In terms of organization, management and control, in addition to the large trading volume and number of transactions executed annually, this is a result of the increase in the number and size of companies listed in it, We ate it the impact of changes in traded stock prices on investment returns for a period that was known for major economic changes and crises

that changed political forces, such as the establishment of economic alliances, including the BRICS organization, the emergence of strong emerging economies, and the decline of other economic forces due to these crises, especially the Corona pandemic, which led to the closure of all areas and international trade exchanges. And the Russian war Ukrainian the resulting terrible rise in the general levels of prices, especially food ones, in addition to the fluctuations in the general levels of oil prices in global markets, are all factors that had an impact on stock prices in financial markets, including the Saudi financial market, and through analysing the impact of stock prices on investment returns. We reached the following results:

Results:

- The diversity of economic traders in the Saudi Tadawul market has shown that it is an efficient financial market in managing financial risks, and this is through the returns achieved in the sectors and the market despite the economic fluctuations and crises that struck the world during the study period.
- The Saudi financial market was affected by economic crises due to its degree of openness to the outside world. This is explained by the results of negative returns for the Saudi market and the sectors under study.
- Stock prices in the Saudi financial market are affected by several financial and non-financial factors, as a result of fluctuations in investors' feelings as a result of their anxiety, panic, and anticipation. Therefore, increasing investor confidence is one of the most important factors in reducing stock price fluctuations during crises. For example, in 2014, when oil prices fell, it led to... The trading volume, the value of traded shares, and the number of executed transactions declined as a result of investors' panic and fear as a result of the absence of the role of corporate governance in providing guarantees to protect investors and increase confidence in the performance and value of companies and their ability to continue, unlike what things were like during the Corona crisis at the beginning of its spread in the year 2020 in the Kingdom. Where were the provisions provided? Guarantees to protect their trust through the procedures followed by the Market Authority to ensure the continuity of trading on the stock exchange by providing the necessary techniques and means for the continuity of stock exchange activity, which was observed in increasing both market returns and the companies under study, trading volume and value of traded shares, and increasing the number of executed transactions.
- The convergence between the average risk rates in the sectors under study and the Saudi financial market explains to us that there is transparency and clarity in disclosing information about companies listed in the market and its ease of access to all economic participants.
- The presence of sectors with high risk rates, such as banks in 2011, at 61.05 percent, with negative returns.
- The diversity and abundance of companies and economic dealers, the large trading volume and the increase in the number of traded shares and transactions executed in the Saudi financial market indicate the availability of great investment opportunities for all that help stimulate the economy and advance economic and social development.
- Recording positive returns in all sectors during the pandemic period indicates that it has overcome the ordeal of the crisis safely. This is on the one hand, and on the other hand, the panic and fear of investors and market traders about infection with the virus and death made them implement full precautionary measures, even though the pandemic had an impact on all global financial markets. But to varying degrees.

Recommendations:

- Providing all necessary technological means of communication for workers in Saudi financial market institutions (such as electronic signature, e-mail) that will maintain the continuity of trading in the Saudi financial market with the required efficiency.
- Working to raise the efficiency of financial markets, and paying attention to the financial leverage of companies and investors.
- Working to make decisions that instil confidence in the hearts of investors to reduce their fear and panic during difficult periods and political, economic, financial, health and environmental crises at their beginning and after their end, and to benefit from the lessons of the past to avoid or mitigate them in the future.
- Paying attention to the written and visual financial press and the financial world and trying to provide positive news that reduces the shocks of bad news.
- Working to spread financial culture among traders in the capital markets.
- Diversify investment portfolios among Arab stock exchanges and benefit from the advantages of arbitrage between stock markets.
- Diversify investment portfolios between financial stocks and real estate, such as gold and silver, as a safe haven in times of crises.

5. Reference List:

- *Books:*

1. Al- Taher Latrash, 2005, Banking Technologies, 04th Edition, Bin Aknoun, Algeria: Diwan Publications University.
2. Frederic Mishkin, 2007, Monnaie, bank et marchés financiers, 8eme edition, op.cit.
3. Osama Nael Al-Muhaisen, 2008, Al-Wajeez fi Commercial Companies and Bankruptcy, first edition, Amman, Jordan, House of Culture.
4. Metwally Abdel Qader, 2010, Financial and Monetary Markets in a Changing World, first edition, Amman, Jordan, Dar Al Fikr.
5. Antoine, J. (2010). Marie Claire capiau huart. traduction vers l'arabe Amel Leila serbis. Belgium: Dictionary of Financial markets on international pages.
6. Muhammad Awad Abdel-Gawad, Ali Ibrahim Al Shudaifat, 2006, Investing in the stock market (stocks, bonds, papersFinance), 1st edition, Amman, Jordan, Dar Al-Hamid.
7. Abdel Moneim Al-Sayed Ali, Nizar Saad Al-Din Al-Issa, 2004, Money, Banking and Financial Markets, Amman, Jordan, Al-Hamid Publishing House.
8. Aladdin Ahmed Jabr, 2007, Stock Exchange, Cairo, Egypt, Egyptian General Book Authority.
9. Hoshyar is known, 2003, Investments and Financial Markets, first edition, Amman, Jordan, Safaa House.
10. Ali Al-Jarhi Temple, 1989, Markets Finance In light of the principles of Islam - Financial Management in Islam, Part 1, Amman, Jordan, Royal Academy for Civilization Research Islamic Al. Foundation the house.
11. Nazim Muhammad Nouri Al-Shammari, Taher Fadel Al-Bayati, Ahmed Zakaria Siam, 1999, basicsInvestmentInkindAl-Mali, Amman, Jordan, Dar Wael for Publishing and Printing.
12. Mounir Ibrahim Hindi, 2002, Securities and Capital Markets, Alexandria, Egypt, Al-Ma'arif facility.
13. Faisal Mahmoud Al-Shawara, 2008, Investing in the Stock Exchange Papers Finance: Foundations Theory and practice with a proposed introduction to evaluating market prices, Jordan, 01st edition, Dar Wael for Publishing and Distribution.

14. Arshad Fouad Al-Tamimi, Osama Azmi Salam, 2004, Investment with papers Finance: Analysis and Management, Amman, Jordan, Dar Al Masirah for Publishing, Distribution and Printing.
15. Moussa Ben Mansour, 2017, Financial Portfolio Management, Lessons and Applications, Bordj Bou Arreridj, Algeria, Jitali Publishing House.
16. Fayed Haddad, 2009, Financial Management, Amman Jordan, Dar Hamed for Publishing and Distribution.
17. Ahmed Al-Sayed Ahmed, 2007, Financial Analysis for the Purposes of Evaluating and Reviewing Performance and Investment in the Stock Exchange, Alexandria, Egypt, University House.

• ***Thèses:***

1. Fatih Laqoqi, 2019, using models ARCH in the study of stock price fluctuations for the telecommunications sector in the Saudi financial market, Faculty of Management Sciences, Mohamed Kheidar University, Biskra, Algeria, pp. 38, 15,

• ***Articles:***

1. Omar Hamidat, Qarsas Hayat, 2019, The impact of changing stock prices on the performance of financial markets, the case of the Kuwait Stock Exchange, Shuaa Journal of Economic Studies, Vol.03, Issue 02, pp. 129, 38.
2. Ahmed Sameh Amin Al-Shouri, 2017, Factors affecting determining the market price of common stock in the Egyptian stock market, Scientific Journal of Commercial and Environmental Studies, Volume 08, Issue 03, p. 452.

• ***Internet sites:***

Capital Market Authority, Annual Report, 2012, p. 22. Accessed on 10/10/2023.

<https://beta.cma.org.sa/ResearchAndReports/Reports/Pages/default.aspx>