



The Relationship between Inflation and Stock Market Return, An Applied study at Damascus Stock Exchange (DSE) For the period (2010-2020)

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Abstract:

The rapid economic developments and successive crises prompted many researchers to search for ways to confront the obstacles facing investment in the financial markets, with the aim of mitigating the impact of economic variables on investment in them. Hence, this study deals with the impact of inflation on financial markets, by studying the impact of inflation on returns Stocks Because stocks are a good hedge against inflation risks, they also provide an important indicator to contribute to making decisions about the optimal diversification of assets.

According to results of the analysis, the research concluded that the Inflation rate (M-O-M) significant with (RDWX) (0.05) which is equal the significance level of (0.05), since that the correlation coefficient (r) was positive and weak with RDWX (0.212), according to this result we can say that there is a positive and weak relation between Inflation rate (M-O-M) and Stock market return at DSE.

Key Words: Stock market return, Inflation Rate, Financial Markets, Exchange Rates, Money Supply.

JEL Classification: D53 ; E31, E44, G10.

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Introduction

inflation has likely been an enduring feature throughout human history, coinciding with the adoption of currency as a medium of exchange. The nexus between stock market returns and inflation holds significant importance for investors, as equities are anticipated to serve as a hedge against the erosive impacts of inflation. However, diverse theoretical frameworks yield disparate conclusions regarding the correlation between inflation and stock market returns. Hence, this investigation endeavors to elucidate the association between inflation and stock market returns within the context of Damascus (DSE).



Problem of the Study: Financial markets play a very important role in the economy's development and that because of the important role that these markets play in mobilizing savings and redirecting them into investment channels that work to support the economy and achieve the well-being of individuals, and to fulfill the role entrusted to them, the financial markets should have the basic condition, which is efficiency in their performance. This performance may be affected by a range of economic factors and perhaps among the most prominent of these economic factors affecting performance of financial markets is mainly represented in Inflation rates which prevailing in the country which affect the stock return. Thus, the problem of this study can be expressed by the Research Question:

What is the correlation between inflation and stock market returns at Damascus Securities Exchange (DSE)?

Importance of the Study: The significance of this study stems from the fact that inflation is the most important variable of the quantitative economy variables, as the phenomenon of inflation is considered one of the most important phenomena that all countries suffer from and leaves its impact directly or indirectly on the economies of these countries in general and on the financial market and dividends in particular. Whereas, the adversely rise in the inflation rate has an effect on the share prices, for two reasons, one direct and the other indirect. The direct reason is that an increase in the rate of inflation leads to an increase in the required rate of return and thus a decrease in the market value of the assets, while the indirect reason is the decrease in the real value of corporate profits and thus lower prices for them. The importance of this study also comes in the study of this phenomenon on the Damascus Financial Market and try to give some suggestions and recommendation to help controlling the risks of inflation and reflecting on the returns of financial stocks, beside Presenting a set of findings and recommendations based on the study.

Objective of the Study: Determining the strength and the nature of the relationship between inflation and Stock Market Return at Damascus Securities Exchange.

Hypothesis: Drawing from the study's objectives, the primary hypothesis posits:

H1: Yonder a significant statistical relationship between inflation and return of financial stocks with (0.05) significance level at Damascus Securities Exchange (DSE).

Methodology of the Study:

The researcher will use the quantitative approach depending on:

Secondary data: by using the researches and textbooks that discussed the relation between Inflation and Stock Market Return when constructing the plan and the theoretical framework of this study.



Population and Sample : The population and sample of this study consists of all companies at Damascus Securities Exchange (DSE) .

Literature Reviews: For the purpose of analyzing and discussing the research problem, it required the use of the most important previous studies, which we mention in the following:

- The Effect of Inflation on Stock Prices of listed Companies in Tehran Stock Exchange: (Ahmadi,2016, p 235)

Iranian, in the recent history, faced two major economic crises which were in April 2005 and February 2014. In this paper, we examine whether the risk return relationship as well as the effects of two macroeconomic variables, output growth and inflation, on real stock returns and volatility changed or not due to these crises using three different monthly indices of the Tehran Stock Exchange. We study the effects both for the whole period and the sub periods that we determine regarding the times of the crises using EGARCH-M framework. The results show that the risk-return relationship changes as the economy moves from one regime to another. Moreover, the crises cause some Changes in the relationships between stock returns and macroeconomic variables are of paramount significance and crisis is seen in the Financial Sector.

- An Impact of Inflation and Exchange Rate on Stock Returns Evidence from India:(Kaur, 2016, p8232)

Changes in the relationships between stock returns and macroeconomic variables are of paramount significance. This study primarily examines the interplay between the Indian stock market and two macroeconomic indicators: inflation and exchange rate. Spanning from April 2011 to March 2017, the study employs a Multivariate Regression Model to explore the relationship between BSE Sensex returns (dependent variable) and macroeconomic variables, namely inflation (CPI) and exchange rate (independent variables). Multicollinearity among independent variables is assessed using Variance Inflation Factor and Tolerance statistics, confirming the suitability of multivariate regression analysis due to the absence of multicollinearity. The results of the multivariate regression reveal a statistically significant positive relationship between inflation and stock returns, while the relationship between exchange rate and stock returns is found to be insignificant in the Indian context. These findings suggest that the Indian Stock Market is notably influenced by inflation dynamics.

- Stock Returns and Inflation: Evidence from Emerging Markets in Asia:(Isnandari&Chalid,2017, p 53)

The study delves into the potential of stocks across various industries to serve as inflation-hedging instruments within eight emerging-market Asian nations. Employing monthly data spanning from 2001 to 2014, the research scrutinizes the



correlation between stock returns and inflation. The findings reveal that stocks within certain non-cyclical sectors demonstrate the capacity to act as inflation-hedging instruments. Specifically, stocks possessing this inflation-hedging potential emanate from industries inherently characterized as defensive.

- The Impact of Macroeconomic Variables on Stock Return of Firms that Listed in Stock Exchange: Empirical Evidence from Indonesia: (Assagaf, et-al, 2019, p108)

The study aims to analyze the impact of macroeconomic variables on the overall return of company shares, which serves as a proxy for changes in the composite stock price index. Spanning a period of 20 months from November 2016 to June 2018, this research employs secondary data. Utilizing multiple linear regression analysis, the study reveals that macroeconomic variables including inflation rates, interest rates, money supply, and foreign exchange rates significantly influence stock returns of companies listed on the Indonesia Stock Exchange.

- Impact of Inflationary Expectations on Stock Market Returns in Nigeria: (Onyebuchi & Wasiu, 2020, P 27)

The study scrutinizes the impact of inflationary expectations on stock market returns within Nigeria, both during the financial crisis era and the post-financial crisis era. Employing Fisher's effect as the theoretical framework, the research employs quarterly data spanning from the first quarter of 2007 to the fourth quarter of 2018. Utilizing the Autoregressive Distributed Lag estimation technique after confirming the stationarity of variables via the Augmented Dickey-Fuller (ADF) test and assessing long-run stability through Bounds co-integration test, the study establishes that inflationary expectations significantly influence stock market returns in Nigeria. Contrary to the Fisher hypothesis, the findings indicate that stocks fail to serve as an effective hedge against inflation, as expectations held by economic agents exert notable effects on stock returns. Consequently, the study rejects the Fisher hypothesis, particularly in the context of Nigeria during the post-global financial crisis era.

-The distinguishes of this study from previous studies:

This study differs from previous studies because it tried to explain the develop of the return of the Damascus Stock Exchange, and to analysis the relationship between inflation as one of the macroeconomic variables with the return of the Damascus Stock Exchange for the period (2010-2020). also, this study included all sectors in the financial market as a sample for research, and was not limited to specific sectors as in other previous studies Also, the practical application was done on the DSE and not on foreign markets.



I-The Theoretical literature of the study:

1.Inflation:

1.1 Definitions of Inflation:

Inflation, as defined by Ariss (2012, p.17), denotes a sustained elevation in the general price levels of goods and services, reflecting a persistent increase in the overall or average prices across various economic sectors. This phenomenon manifests when the prices of goods rise or when more money is required to purchase the same items. Structural factors, such as fluctuations in real income stemming from oil revenue, high nominal wages, and debt obligations like expansionary fiscal deficits, largely contribute to inflationary pressures (Taofik & Omosola, 2013, p.147). Fluctuations in the demand for goods and services, as well as alterations in product supply availability, also serve as additional causes of inflation (Ariss, 2012, p.17).

Inflation gradually diminishes the purchasing power of currency, leading to a decline in the real value of money. Consequently, as inflation escalates over time, the value of money decreases, resulting in diminished returns. Moreover, heightened inflation uncertainty augments the required risk premium, elevates the discount rate, and diminishes the discounted present value of anticipated future cash flows, thereby precipitating a decline in stock prices. Additionally, inflation uncertainty adversely impacts economic activity, with stock returns typically leading economic trends, thereby establishing a negative correlation between stock returns and inflation uncertainty (Azar, 2014, p.1). Elevated inflation rates undermine the purchasing power of a nation's currency (Mugambi & Okech, 2016, p.392). Conversely, low and stable inflation rates facilitate private sector planning for the future, mitigate the need for costly price adjustments, alleviate tax distortions, and foster a stable business environment (Alimi, 2014, p.2)

1.2 Inflation Illusion Hypothesis:

the Inflation Illusion Hypothesis posits that as expected inflation rates increase, bond yields correspondingly rise. However, due to equity investors erroneously discounting real cash flows using nominal rates, the elevation in nominal yields results in equity underpricing and vice versa (Owolabi & Adegbite, 2013, p.94). This hypothesis further asserts that stock market investors are susceptible to money illusion, which presents a particularly intriguing and contentious proposition, given the high stakes involved in the stock market. Consequently, during periods of high (low) inflation, rational expectations regarding equity premiums are anticipated to be higher (lower) than the market's subjective expectations, resulting in undervaluation (overvaluation) of the stock market. The Inflation Illusion Theory uniformly forecasts the predictive capacity of inflation for asset returns within the stock market. (Schmeling & Schrimpf, 2008, p5).



1.3 Measuring inflation:

Inflation remains a focal point of attention for both developed and developing nations, representing a significant economic phenomenon. Widely gauged through the Consumer Price Index (CPI), inflation is quantified by assessing the fluctuations in this index. Ahmad and Naseem (2011) define price inflation as the inflation rate, calculated as the annual percentage change in the general price index (Consumer Price Index) over a specified timeframe. Saleem, Zafar, and Rafique (2013) elucidate that the inflation rate is denoted by the Consumer Price Index (CPI), symbolizing an overarching escalation in the prices of goods and services. This surge in prices diminishes the purchasing power of each unit of currency. Inflation is an unpredictable factor which affects the share prices either positively or negatively. An increase in inflation affects the stock market negatively and a decrease in inflation affects the stock market positively. Consumer Price Index (CPI) is considered as measuring inflation and it has been collected from International financial statistics book and IMF website for the period of 2003 to September 2013. (Mohan & Chitradevi, 2014, P231).

To calculate inflation, we use the CPI index, by computing the value of basket of goods and services in current and base year: (Mankiw, 2016, P21)

$$CPI = \frac{\text{Price of basket of goods and services in current year}}{\text{Price of basket in base year}} \times 100$$

$$\text{Inflation rate in year 2} = \frac{CPI \text{ in year 2} - CPI \text{ in year 1}}{CPI \text{ in year 1}} \times 100$$

1.4 The Effects of Inflation:

Fluctuations in inflation correspondingly affect the nominal interest rate applied to loans for purchasing goods. The nominal interest rate consists of the real rate augmented by an anticipated inflation factor. Expected inflation provides insights into the public's perception of the economy's trajectory. For instance, if the public foresees an uptick in inflation, it may stem from a positive demand shock attributable to economic expansion and heightened aggregate demand. Conversely, it could stem from a negative supply shock, such as escalating energy prices and dwindling aggregate supply. In either scenario, the public may anticipate the central bank implementing contractionary monetary policies to curb inflation, resulting in elevated interest rates.

Conversely, if economists anticipate a decrease in inflation, the public may brace for an impending recession. Consequently, they may anticipate expansionary monetary policies and lower short-term interest rates. By tracking expected inflation, economists glean insights into the efficacy of macroeconomic policies. Moreover, monitoring expected inflation aids in projecting the trajectory of real interest rates, accounting for inflation's impact. Such information is vital for decision-making regarding investment financing (Ariss, 2012, p. 633).



2. Stock Market Returns:

2.1 Definition of Stock Market Returns:

stock market returns, at times synonymous with stock prices, can be indicative of a robust market that efficiently integrates new information into stock prices, resulting in stable and accurately valued firm stocks (Mwangi & Mwiti, 2015, p.99). These returns play a crucial role in determining how effectively and efficiently the stock market allocates shares and equities based on market preferences and available information. Fluctuations in stock prices create uncertainty for investors, influencing the demand and supply of stocks (Taofik & Omosola, 2013, p.148). Shares and stock markets are highly responsive to information that shapes future trends and market development, highlighting the significance of uncertainty in stock market returns as a crucial aspect of the aggregate economy (Širucek, 2013, p.35; Erdugan, 2014, p.4).

Stock return, quantified as the gain or loss of a share's value within a specific period, is typically expressed as a percentage and encompasses both capital gains and income received by investors from the stock (Mugambi & Okech, 2016, p.391). Stock market indexing stands as one of the most commonly utilized metrics for assessing stock performance. Measures of stock market performance include market capitalization, reflecting the size of the stock market; stock market liquidity, indicating the ease with which investors can buy and sell securities; All Share Index, which mirrors the performance and condition of the stock market; and turnover ratio, serving as a benchmark for market liquidity ratings and transaction cost levels (Daferighe & Sunday, 2012, p.77-78).

2.2 Effect of Inflation on Stock Market Returns:

Inflation denotes a sustained alteration in the price level of goods and services within an economy, typically measured through indices such as the Consumer Price Index (CPI) or Retail Price Index (RPI). This persistent rise in prices diminishes the purchasing power of a nation's currency, necessitating an increasing number of currency units over time to procure the same goods and services (Sathyanarayana, 2018, p.490). Furthermore, there exists a long-term relationship between stock returns and inflation, as highlighted by Taofik and Omosola (2013, p.146).

2.3 Determinants of Stock Market Returns:

the main determinants of stock market returns:

a. Interest Rates: Interest rates play a pivotal role as determinants of stock market returns, influenced by the interplay between supply and demand dynamics for loanable funds (Obura & Anyango, 2016, p.28). Fluctuations in interest rates impact both domestic currency strength and capital inflows, thereby influencing stock price changes and subsequent capital flows, ultimately affecting changes in exchange rates (Khan, 2019, p.16).



Defined as the annual fee charged by lenders to borrowers for obtaining loans, interest rates are typically expressed as a percentage of the total loan amount. The neoclassical theory of interest posits that an increase in interest rates escalates the cost of loans for investment by entrepreneurs, thereby constricting investment activities within an economy (Barnor, 2014, p.61). Consequently, interest rates are regarded as the cost of capital, with fluctuations influencing investment decisions. Higher interest rates or discount rates diminish the present value of cash flows, thereby elevating the opportunity cost of holding cash and prompting a substitution effect between stocks and other interest-bearing securities like bonds (Rehman, Sidek, & Fauziah, 2009).

Moreover, as highlighted by Barnor (2014), an upsurge in interest rates triggers shifts in investment preferences, prompting investors to reallocate their investment portfolios from capital markets to fixed-income securities (Barnor, 2014, p.63).

b. Money Supply: Money supply, or money stock, represents the aggregate amount of monetary assets circulating within an economy at a given moment. Fluctuations in money supply serve as a crucial indicator and a significant source of information regarding future developments in stock market returns or volatility (Barnor, 2014, p.174). Notably, the quantity of money within an economy emerges as the most influential factor shaping the long-term trajectory of stock prices, as affirmed by Širucek (2013, p.2). This is because changes in money supply can directly impact stock prices, particularly when an excess of money is available within the economy and subsequently allocated towards investments.

c. Exchange Rates: Exchange rate refers to the rate at which one currency can be converted into another currency (Mohan & Chitradevi, 2014, p.231). Fluctuations in exchange rates can impact relative prices, thereby influencing the competitiveness of domestic and foreign producers. A significant appreciation of the domestic currency renders domestic goods more expensive relative to foreign goods, leading to a shift in demand from domestic to foreign products. This scenario, particularly in export-oriented countries, can diminish the competitiveness of exports and consequently exert a negative influence on the domestic stock market (Kirui et al., 2014, p.222).

Furthermore, exchange rate dynamics reflect the price of one country's currency in terms of another country's currency, representing the rate at which currencies can be exchanged. This process is integral for facilitating international trade across diverse currencies. Exchange rates serve as indicators of national and international political, social, and economic developments. In developed countries, exchange rates respond swiftly to events such as war, terrorism, changes in political landscapes, and key economic indicators such as unemployment and interest rates. At the macro level, foreign exchange rates impact a country's economy, while at the micro level, they influence individual firms (Obura & Anyango, 2016, p.28).



2.4 Stock Market Returns Calculations:

To calculate Stock Market Returns, various ratios are utilized:

- The Dividend Cover Ratio: evaluates the relationship between a company's earnings and its dividend payments, indicating the extent to which earnings cover dividends. Expressed as a ratio, it helps investors gauge the cash return on their investment in the business.

$$\text{Dividend cover ratio} = \frac{\text{Earnings for the year available for dividends}}{\text{Dividends announced for the year}}$$

- The Dividend Yield Ratio: It compares the cash return from a share to its current market value. This ratio, expressed as a percentage, assists investors in assessing the cash return on their investment in the business. The ratio, expressed as a percentage, is:

$$\text{Dividend yield} = \frac{\text{Dividend per share}}{\text{Market value per share}} \times 100$$

- Earnings per share the earnings per share (EPS) ratio: It illustrates the earnings generated by the business during a specific period and available to shareholders, relative to the number of shares in circulation. For equity shareholders, this amount is typically represented by the profit for the year (after taxation) less any preference dividends, if applicable. The ratio for equity shareholders is calculated as follows:

$$\text{Earnings per share} = \frac{\text{Earnings available to ordinary shareholders}}{\text{Number of ordinary shares in issue}}$$

- Total shareholder return (TSR): It serves as a comprehensive measure utilized by investors to evaluate value creation over time. TSR encompasses all returns generated from an investment, including capital appreciation and dividends received. It is frequently employed as a basis for management reward systems. The total return from a share is made up as follows:(Atrill, 2017, P177)

$$\text{Total shareholder return} = \frac{DI + (P1 - P0)}{P0} \times 100$$

$$\text{TSR} = \frac{E(DI) + [E(P1) - P0]}{P0}$$

- Financial market index: The researcher used the monthly return of the free-float-weighted market index, called Rum, and then the monthly rate of return was calculated on the market index, to calculate the Damascus Securities Exchange (DSE) Index weighted by market value (DWX), the following equation is utilized:



$$DWX = \frac{\sum_1^n MV_i PR_i}{\sum_1^n MV_i}$$

Where:

MV_i : Market value of company i

PR_i : Price return of company i

n : Total number of companies listed in the parallel and regular market

This method of calculation involves weighting each company by its market value in the calculation of the index. Each company's weight is determined by its market value relative to the total market value of all companies in the index sample:

$$RUM = \frac{\text{Index value at the end of the month } T - \text{Index value at the end of the month } T-1}{\text{Index value at the end of the month } T-1}$$

The Damascus Securities Exchange Index weighted by market value (DWX) serves as a crucial metric for assessing the overall performance of the Syrian stock market. It accounts for the impact of various macroeconomic variables such as interest rates, gross domestic product, exchange rates, budget deficit, money supply, and inflation rate on stock returns within the country.

II-Practical framework:

1. Overview of Damascus Securities Exchange :

The Damascus Securities Exchange (DSE) is a stock exchange located in Damascus, Syria. Founded in 2009, it is the only stock exchange in Syria. Its current headquarters is located in the Barzeh region, within the Syrian Financial Markets and Securities Authority. Its final home is scheduled to be the upscale commercial district of Yafour. The Damascus Stock Exchange is a member of the Euro-Asian Federation of Stock Exchanges. The first official trading launch took place on Tuesday, March 10, 2009. <http://www.dse.sy/index/>

2. Data Collection:

-Inflation rate (independent variable):

Inflation will be calculated using the CP index, by computing the value of basket of goods and services in current and base year :

$$CPI = \frac{\text{Price of basket of goods and services in current year}}{\text{Price of basket in base year}} \times 100$$

$$\text{Inflation rate in year 2} = \frac{CPI \text{ in year 2} - CPI \text{ in year 1}}{CPI \text{ in year 1}} \times 100$$



-Stock Market Return (independent variable):

While the stock market returns a monthly return of the free-float-weighted market index, called Rum, used and then the monthly rate of return was calculated on the market index, using the following mathematical formula:

$$RDWX = \frac{\text{Index value at the end of the month } T - \text{Index value at the end of the month } T-1}{\text{Index value at the end of the month } T-1}$$

Market index in the last month of the year 2009 = 1000

- ✓ In order to calculate the Inflation rate & stock market return the researcher need the CPI index numbers from periodicals of the Central Bureau of Statistics and the stock return at DSE at the end of each year of the study period (2010 – 2020)
- ✓ Guide to the working mechanism of the index weighted with market value in the Damascus Securities Exchange - DWX:

What distinguishes this indicator is that it adopts the method of weighting the market value of the companies included in the calculation of its equation Where each company is given a weight of the market value of the sample as a whole, the index sample consists of all companies listed in the parallel and regular market.

To calculate the index weighted by the market value, we use the following equation

DWX: Index weighted by the market capitalization of companies

$$\Sigma = \frac{\text{Average share price} * \text{The number of shares of the company}}{\text{Base share price}}$$

3. Inflation rate data (independent variable) Market Index Value and its Return (Dependent Variable) & for the period (2010-2020):

The evolution of the inflation rate and the stock market return are shown in the following table:



Table (1): Inflation rate data (independent variable) & Market Index Value and its Return (Dependent Variable) for the period (2010-2020)

Year	Month	Monthly Inflation M-O-M	Annual Inflation Y-O-Y	CPI	dwX	rdwX	Year	Month	Monthly Inflation M-O-M	Annual Inflation Y-O-Y	CPI	dwX	rdwX
2010	12	1.67%	6.32%	148.69	1719	0.045	2012	12	10.81%	10.81%	256.22	770	-0.028
2010	11	0.08%	5.18%	146.25	1645	-0.045	2012	11	2.26%	49.51%	231.24	792	-0.015
2010	10	1.56%	6.36%	146.13	1723	0.037	2012	10	-0.60%	49.87%	226.12	804	-0.016
2010	9	2.29%	4.74%	143.88	1662	0.064	2012	9	8.06%	48.10%	220.28	817	-0.002
2010	8	1.96%	2.95%	140.65	1562	0.063	2012	8	2.93%	39.49%	203.86	819	-0.008
2010	7	-0.35%	2.18%	137.95	1469	0.037	2012	7	1.07%	36.13%	198.06	826	-0.02
2010	6	-0.80%	3.18%	138.44	1416	0.043	2012	6	2.90%	36.10%	195.96	843	-0.022
2010	5	-1.45%	3.86%	139.54	1357	0.08	2012	5	-0.60%	32.51%	190.43	862	-0.018
2010	4	-0.13%	5.64%	141.6	1256	0.097	2012	4	0.58%	31.45%	191.59	878	0.01
2010	3	0.43%	4.70%	141.78	1145	0.016	2012	3	6.70%	30.77%	190.49	869	0.024
2010	2	1.49%	5.41%	141.17	1127	0.04	2012	2	3.58%	21.34%	178.53	849	-0.015
2010	1	-0.53%	2.18%	139.1	1084	0.084	2012	1	4.43%	15.67%	172.37	862	-0.009
2011	12	6.73%	11.01%	165.06	870	0.027	2013	12	0.34%	88.30%	482.48	1249	-0.002
2011	11	2.51%	5.75%	154.66	847	-0.062	2013	11	-2.18%	107.94%	480.84	1252	0.005
2011	10	1.44%	3.25%	150.88	903	0.057	2013	10	0.88%	117.39%	491.56	1246	-0.004
2011	9	1.78%	3.38%	148.74	958	0.007	2013	9	8.02%	121.22%	487.3	1251	0.051



Year	Month	Monthly inflation M-O-M	Annual inflation Y-O-Y	CPI	dwX	rdwX	Year	Month	Monthly inflation M-O-M	Annual inflation Y-O-Y	CPI	dwX	rdwX
2011	8	0.45%	3.90%	146.14	951	-0.055	2013	8	6.45%	121.29%	451.12	1190	-0.017
2011	7	1.05%	5.47%	145.49	1006	-0.024	2013	7	12.57%	113.98%	423.8	1211	0.024
2011	6	0.18%	4%	143.98	1031	-0.164	2013	6	17.66%	92.13%	376.5	1149	-0.025
2011	5	-1.39%	2.98%	143.71	1233	0.014	2013	5	3.55%	68.03%	319.98	1178	1.313
2011	4	0.06%	2.93%	145.75	1216	-0.163	2013	4	3.16%	61.29%	309.01	897	0.13
2011	3	-1%	2.74%	145.67	1452	-0.109	2013	3	10.75%	57.25%	299.55	794	0.03
2011	2	-1.27%	4.22%	147.13	1629	-0.051	2013	2	2.96%	51.50%	270.48	771	-0.014
2011	1	0.22%	7.13%	149.02	1716	-0.002	2013	1	2.53%	52.40%	262.7	782	0.016
2014	12	5.44%	16.89%	365.65	1271.3	1.38	2015	12	7.91%	48.09%	540.02	1227.9	1.53
2014	11	1.62%	2.21%	345.85	1254	-2.91	2015	11	2.81%	44.70%	500.43	1209.4	-0.46
2014	10	1.28%	-1.62%	340.32	1292	-0.52	2015	10	3.06%	43.02%	486.74	1215	1.3
2014	9	4.99%	-2.01%	336.03	1298.3	-1.01	2015	9	5%	40.55%	472.29	1199.3	-0.46
2014	8	0.06%	0.81%	320.05	1312	-0.75	2015	8	1.30%	40.54%	449.8	1204.9	-0.59
2014	7	1.46%	7.25%	319.85	1321.4	1.03	2015	7	0.71%	38.82%	444.02	1212.1	1.04
2014	6	2.36%	18.98%	315.25	1308	3.84	2015	6	2.48%	39.85%	440.87	1199.6	-0.58
2014	5	-0.74%	36.78%	307.99	1260	0.84	2015	5	0.01%	39.68%	430.21	1206.6	0.27
2014	4	-0.77%	42.69%	310.31	1249.1	1.38	2015	4	3.39%	38.62%	430.15	1203.26	-3.14
2014	3	1.77%	48.34%	312.71	1232.1	0.92	2015	3	6.01%	33.04%	416.04	1242.3	-0.56



Year	Month	Monthly inflation M-O-M	Annual inflation Y-O-Y	CPI	dwX	rdwX	Year	Month	Monthly inflation M-O-M	Annual inflation Y-O-Y	CPI	dwX	rdwX
2014	2	-0.79%	61.43%	307.27	1221	-1.17	2015	2	2.48%	27.72%	392.46	1249.33	-1.01
2014	1	-0.72%	67.54%	309.73	1235	-1.13	2015	1	5.02%	23.65%	382.97	1262.11	-0.72
2016	12	5.14%	43.22%	773.4	1617.5	7.64	2017	12	0.90%	1.05%	781.52	5982.7	28.43
2016	11	0.51%	46.99%	735.59	1503	1.61	2017	11	-0.34%	5.30%	774.56	4658.3	13.02
2016	10	1.41%	50.36%	731.87	1479	-2.13	2017	10	0.16%	6.19%	777.18	4122	26.71
2016	9	6.19%	52.81%	721.69	1511.21	0.22	2017	9	-0.02%	7.51%	775.93	3253	9.22
2016	8	0.40%	51.10%	679.63	1507.9	2.06	2017	8	0.15%	14.19%	776.1	2.978.3	1.5
2016	7	1.50%	52.45%	676.92	1477.42	0.59	2017	7	-0.33%	14.48%	774.9	2934.3	2.99
2016	6	7.25%	51.27%	666.92	1468.8	-1.76	2017	6	-1.64%	16.58%	777.5	2849.05	-4.06
2016	5	1.82%	44.55%	621.86	1495.1	-4.21	2017	5	-1%	27.12%	790.5	2970	-5.11
2016	4	0.68%	41.98%	610.72	1560.8	8.38	2017	4	-0.42%	30.73%	798.5	3129.41	2.08
2016	3	7.24%	45.81%	606.62	1440.13	4.08	2017	3	2.43%	32.19%	801.9	3066	12.3
2016	2	0.22%	44.14%	565.68	1383.7	11.01	2017	2	0.12%	38.40%	782.89	2717.4	18.4
2016	1	4.52%	47.39%	564.46	1246.1	1.48	2017	1	1.11%	38.53%	781.95	2296	42
2018	12	1.87%	3.80%	811.2	6190.12	-0.52	2019	12	14.96%	34.52%	1091.25	6045.5	-2.34
2018	11	0.84%	2.81%	796.32	6223	-0.84	2019	11	2.71%	19.20%	949.21	6182.2	2.26
2018	10	0.23%	1.61%	789.69	6276	1.14	2019	10	0.82%	17.03%	924.19	6173.5	-0.14
2018	9	1.54%	1.24%	787.92	6205.1	2.38	2019	9	4.14%	16.34%	916.65	6092	-1.32



Year	Month	Monthly inflation M-O-M	Annual inflation Y-O-Y	CPI	dwx	rdwx	Year	Month	Monthly inflation M-O-M	Annual inflation Y-O-Y	CPI	dwx	rdwx
2018	8	0.16%	0.28%	778.3	6061.01	9.63	2019	8	1%	13.10%	880.23	6055	-0.61
2018	7	-0.84%	0.28%	777.07	5529	-2.56	2019	7	0.75%	12.15%	871.52	5958	-1.6
2018	6	-0.66%	0.79%	783.67	5674	0.42	2019	6	0.18%	10.39%	865.06	6029	1.19
2018	5	-0.73%	-0.21%	788.84	5650	-5.66	2019	5	-0.05%	9.47%	863.53	6041.5	0.21
2018	4	-0.15%	-0.48%	794.64	5989	-2.21	2019	4	-0.28%	8.72%	863.95	5668.3	-6.18
2018	3	0.68%	-0.76%	795.84	6124.15	-2.01	2019	3	3.63%	8.86%	866.38	5744	1.33
2018	2	0.35%	0.97%	790.5	6250	5.57	2019	2	1.22%	5.76%	836.04	5517.11	-3.95
2018	1	0.80%	0.74%	787.76	5920	-1.05	2019	1	1.82%	4.85%	825.96	5837	5.79
2020	12	11.40%	163.1	2871.1	8082.6	5.05	2020	6	53.03%	131.18%	1481.03	7671.1	15.74
2020	11	2.7	171.6	2577.9	7694	3.66	2020	5	6.36%	71.51%	1481.03	6628	6.2
2020	10	4.2	171.7	2511	7422.01	-0.2	2020	4	5.45%	61.18%	1392.52	6241	2.07
2020	9	14.4	163	2410.7	7437	-0.62	2020	3	11.90%	52.43%	1320.61	6114.24	-3.95
2020	8	3.50%	139.46%	2107.8	7483.1	-2.01	2020	2	2.89%	41.16%	1180.12	6366	7.79
2020	7	1.83%	133.67%	2036.4 7	7636.42	-0.45	2020	1	5.10%	38.86%	1146.92	5906	1.18

Source: By researcher using data from website of Central Bureau of Statistics Syria at <http://cbssyr.sy/CPI/> inflation and data from websites of Damascus Securities Exchange at http://www.dse.sy/reports/exchange_report



Representing the monthly values of inflation rate and the Market Index Value graphically, we get the following graphs:

Figure 1 Monthly Inflation Rate: M-O-M

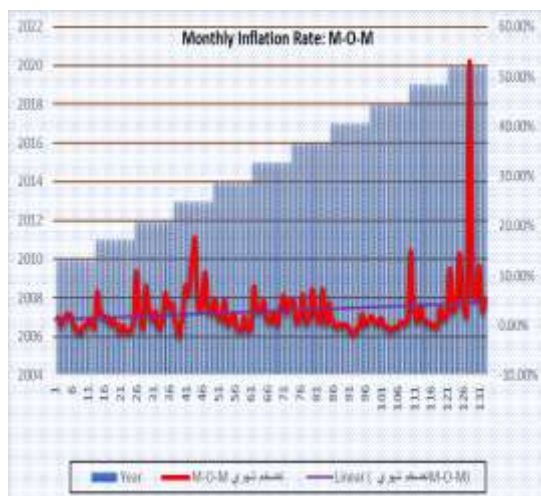
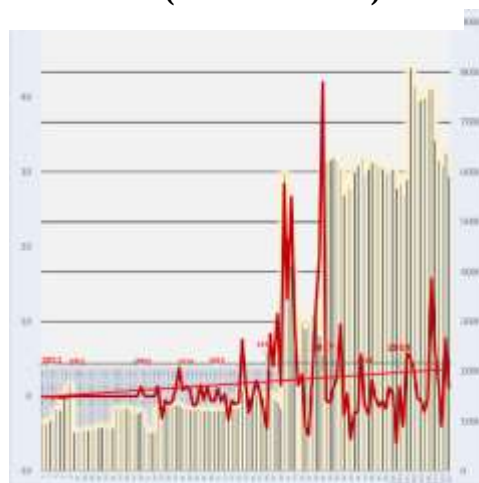


Figure 2 Market Index Value and its Return (DWX& RDWX)



Source for both figures: researcher based on data from Table (1)

During the studied period (2010-2020). The evolution of the monthly inflation rate during the period under review is due to several reasons, the most important one is the Syrian crisis that the country has been experiencing since 2011, and also the economic sanctions imposed on Syria, which affected the movements of imports and exports, also the demand of goods and services remained the same and the supply of it decreased, which led to a clear imbalance between the prices of production factors and the prices of goods and services, in addition to the negative impact on the balance of payments and the Syrian trade balance due to economic sanctions, and all this was reflected in the high inflation rate. Representing the values of Market Index Value and its Return (Dependent Variable) graphically, we get the following graph :

Figure 2 shows that the Market Index Value and its Return (DWX& RDWX) vibrate through the period 2010-2020. The fluctuation of the Damascus Stock Exchange index values and its return values are due to a number of factors, the most important one is related to the Syrian economic situation during the years of the crisis, which is the period studied in the research, beside that the weak confidence of investors in the Damascus Stock Exchange during the years of the crisis, In addition to the impact of macroeconomic variables such as interest rate, gross domestic product, exchange rate, budget deficit and money supply, in addition the inflation rate, whose role will be determined in the following paragraph as considered the independent variable studied in this research:



4. Data analysis:

To test the research hypotheses, the values of Inflation rate (M-O-M) and Stock market return (RDWX) have been taken from table (1)

4.1 Correlation analysis between Inflation rate (M-O-M) and Stock market return (RDWX):

In order to measure the strength of the relation between the independent variable Inflation rate (M-O-M), and the dependent variables Stock market return (RDWX), Curve Estimation test to find the correlation between variables was performed as follows:

Table (2) Correlation Analysis between Inflation rate (M-O-M) and Stock market return (RDWX)

The Independent Variable	The Dependent Variable	Correlation Coefficient	Significance Level
Inflation rate (M-O-M)	RDWX	0.212	0.05

Source: prepared by the researcher

Table (2) shows that the Inflation rate (M-O-M) significant with (RDWX) (0.05) which is equal the significance level of (0.05), since that the correlation coefficient (r) was positive and weak with RDWX (0.212), according to this result we can say that there is a positive and weak relation between Inflation rate (M-O-M) and Stock market return at DSE.

4.2 Test of Hypothesis:

H1: there is a significant statistical relationship between Inflation rate and Stock market return (RDWX) with (0.05) significance level at Damascus Stock Exchange (DSE).

The results show that the Inflation rate (M-O-M) significant with Stock market return (RDWX) which is equal the significance level of (0.05), since that the correlation coefficient (r) was positive and weak with RDWX (0.212), according to this result we can say that there is a positive and weak relation between Inflation rate (M-O-M) and Stock market return at DSE .Thus, according to the analysis of the hypotheses, the researcher accepts this hypothesis.

**Conclusion:**

by the protracted Syrian crisis, which has been ongoing since 2011, and the imposition of economic sanctions against Syria. Despite the constant demand for goods and services, supply has decreased significantly, leading to a pronounced imbalance between the prices of production factors and the prices of goods and services. These conditions have had a negative impact on Syria's balance of payments and trade balance. As a result, the period from 2010 to 2020 is characterized by increased inflation rates and considerable volatility in the market index value and its return (DWX and RDWX). The analysis shows a positive but weak correlation between the month-on-month inflation rate and stock market returns on the Damascus Securities Exchange (DSE).

In view of the foregoing, a set of results can be reached:

- The Inflation rate (M-O-M) significant with Stock market return (RDWX) which is equal the significance level of (0.05), since that the correlation coefficient (r) was positive and weak with RDWX (0.212), according to this result we can say that there is a positive and weak relation between Inflation rate (M-O-M) and Stock market return at DSE.
- The result was consistent with previous studies and theories in terms of the positive correlation of the inflation index with the market return. It was also compatible with the economic conditions prevailing in the country.
- Studying the effect of the inflation rate on the stock return in the Damascus Securities Exchange alone is not sufficient to build Effective strategies, as the weak relationship between the inflation rate and the stock return indicates the presence of other factors that must be taken into consideration to know the impact of these factors on stock returns, with the aim of building correct and Accurate investment decisions.

From the above, a set of suggestions can be put forward as follows:

- Preparing more studies to find out the most important factors that are most effective in interpretation of the changes in stock returns.
- Investors should diversify their investment portfolios to avoid high inflation and avoid its impact on stock returns that the investors should have the necessary knowledge and experience to use and understand the information received in the market and to have the ability to analyze it.
- The Stock Markets Authority should have measures to improve investment awareness among investors by holding training courses and issuing specialized scientific journals that include an analysis of the latest market developments.
- The investor should rely on all the factors surrounding the investment conditions and not rely on the movement of the index alone, in order to avoid misleading information.



- Finding a mechanism for a coordination between monetary policy and the financial market through developing a transparent and general strategy that includes various economic, social and political aspects to ensure both economic stabilities, and the prosperity of the financial market.
- The necessity of adopting economic policies to eliminate the imbalance in the structure of the national economy.

Bibliographic References:

- Ahmadi, F. “The effect of inflation on stock prices of listed companies in Tehran stock exchange”, World Scientific News, Vol. 40, PP 235-247,2016.
- Alimi, R. S. “Inflation and Financial Sector Performance: The Case of Nigeria. Timisoara Journal of Economics and Business”, Vol 7,1, pp1-13,2014.
- Ariss, T. (2012). Understanding Inflation and Revising National Price Data. Lebanon: Lebanese Economic Association.
- Assagaf, A, Murwaningsari, E, Gunawan, J. “The impact of Macro Economic Variables on Stock Return of firms That Listed in Stock Exchange: Empirical Evidence from Indonesia”, International Journal of Business and Management; Vol. 14, No. 8, pp108-116,2019.
- Atrill, P. (2017). Financial Management for Decision makers. Ninth Edition, New York, Boston: Pearson Education.
- Azar, S. A. “The Determinants of US Stock Market Returns”. Open Economics and Management Journal, 1, pp 1-13,2014.
- Barnor, C. (2016). The Effect of Macroeconomic Variables on Stock Market Returns in Ghana. Unpublished Dissertation. Walden University .
- Daferighe, E. & Sunday, C. S. “The Impact of Inflation on Stock Market Performance in Nigeria. American Journal of Social and Management Sciences”, 3 2, pp 76-82,2012 .
- Erdugan, R. (2014). The Effect of Economic Factors on the Performance of the Australian Stock Market. Unpublished Dissertation. Victoria University, Melbourn.
- Isnandari, M &Chalid, D. “Stock Returns and Inflation: Evidence from Emerging Markets in Asia”, Indonesian Capital Market Review, Vol. 9, PP 53-61,2017.
- Kaur, M. “An Impact Of Inflation And Exchange Rate On Stock Returns: Evidence From India”, Scholarly Research Journal for Interdisciplinary Studies, Vol. 4, No. 37, pp 8232-8239,2017 .
- Khan M, “Impact of Exchange Rate on Stock Returns in Shenzhen Stock Exchange: Analysis Through ARDL Approach”, International Journal of Economics and Management, 1, 2, pp 15 – 26, 2019.
- Kirui, E., Wawire, H. W. &Onono, P, “Macroeconomic Variables, Volatility and Stock Market Returns: A Case of Nairobi Securities Exchange, Kenya”, International Journal of Economics and Finance, 6 ,8, pp 214-228,2014.



- Mahonye, N. & Mandishara, L. "Stock Market Returns and Hyperinflation in Zimbabwe. Investment Management and Financial Innovations", 11, 4, pp223 – 232, 2014.
- Mankiw, G. (2016). Principle of Macroeconomics. Eighth Edition United States of America: Cengage Learning.
- Mohan, C. & Chitradevi, N. "Impact of Inflation and Exchange Rate on Stock Market Performance in India. Indian Journal of Applied Research", 4, 3, pp230-232, 2014.
- Mugambi, M. & Okech, T. C. "Effect of Macroeconomic Variables on Stock Returns of Listed Commercial Banks in Kenya". International Journal of Economics, Commerce and Management, 4, 6, pp390-418, 2016.
- Mwangi, M. & Mwititi, J. K. "The Effect of Voluntary Disclosure on Stock Market Returns of Companies Listed at the Nairobi Securities Exchange". International Journal of Business and Social Science, 6 1, pp99-105, 2015.
- Obura, J. M. & Anyango, C. "Moderating Effect of Interest Rates on Relationship between Foreign Exchange Rate Fluctuation and Performance of Nairobi Securities Exchange Market". Universal Journal of Accounting and Finance, 4, 2, pp27-34, 2016.
- Onyebuchi, I. & Wasiiu, A. "Impact of Inflationary Expectations on Stock Market Returns in Nigeria". Journal of Economic Studies (JES) Department of Economics, 17, 1, PP 27-42, 2020
- Owolabi, A. U. & Adegbite, T. A. "Inflation and Capital Market Performance: The Nigerian Outlook". Journal of Emerging Trends in Economics and Management Sciences, 5, 1, pp 93-99, 2013
- Sathyanarayana, S. & Gargesa, S. "An Analytical Study of the Effect of Inflation on Stock Market Returns". IRA-International Journal of Management & Social Sciences. 13, 2, pp 48-64 2018
- Schmeling, M. & Schrimpf, A. (2008). Expected Inflation, Expected Stock Returns and Money. 1 edition, Germany: Center for European Economic Research.
- Širucek, M. (2013). The Impact of the Money Supply on Stock Prices and Stock Bubbles. Mendel University.
- Taofik, M. I. & Omosola, M. A. "The Relationship between Stock Return and Inflation in Nigeria". European Scientific Journal, 9, 4, pp146 – 157, 2013

Website:

- Damascus Securities Exchange:

<http://www.dse.sy/index/>

http://www.dse.sy/reports/exchange_report

- Central Bureau of Statistics Syria: <http://cbssyr.sy/CPI/inflation>