

Performance of Stock and Treasury Bills under Inflation and Floating: Evidence from Egypt

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Abstract

The aim of this study is comparing the performance of common stock & treasury bills, according to the central bank of Egypt and their monetary policy during the time period between “1994-2017”, using descriptive & inferential statistical methods. The Study concluded that there is a strong positive relationship between inflation rate & returns of Egyptian treasury bills, as the same relation as with floating Egyptian pound.

in addition, the study found the impact of Inflation and Floating on the return of Egyptian T-bills, but don't found this impact on the return of Egyptian common stock. Finally, the study founds the same average return but a different at variances of this return & the Coefficient of variation.

Keywords: financial market, financial instrument, stock, treasury bills, inflation, floating, interest rate, monetary policy, Egypt, EGX

1. Introduction

1.1 Introduce the Problem

Financial instruments can be classified according to the relationship between return and risk. Government securities are the least risk & return when compared with a common stock; the structure of financial assets return varies according to the financial instrument type; Egypt; in 2017 treasury bills return increased to abnormal levels, which could be explained by the influence of market imperfections on security pricing.

The structure of the return of financial assets varies between these instruments. The return on the Treasuries has reached abnormal returns; this can be explained according to the influence of market imperfections on security pricing has long been recognized. Market performance, in particular, has attracted a lot of attention from traders, regulators, exchange officials as well as academics.

Since 2008; the financial institutions have shifted their strategies to overweight their investments with local debt instruments (Individuals are not allowed to trade directly on government debt instruments). Since the floating of foreign exchange (11/2016), Egypt witnessed foreign inflows of government debt instruments, due to the increase in local interest rates by the Central Bank of Egypt.

1.2 Explore Importance of the Problem

There are a lot of economic reforms and changes in the Egyptian economy. This has led to a change in the structure of performance of financial instruments (structure of return & structure of risk). Is this only in the short term? Or it is also in the long term. So answers are needed for the following questions:

- Is there an impact of Inflation rate and floating exchange rate on Egyptian T-bills performance?
- Is there an impact of Inflation rate and floating exchange rate on Egyptian common performance?
- What is the difference between common stocks and T-bills performance?

1.3 Literature Review

There are previous studies related to the relation between stock and treasury bills performance & inflation rate, interest rate and floating exchange rate, the first is Fama (1981) the second is Jacoby et al. (2000) provides theoretical arguments to show how inflation and treasury bills impact valuation of instruments. There are many

studies on this subject as well.

Table 1. Literature review

Author	Study Period & Population	Variables	Conclusion
Fabio C. Baglino & Andrea Beltariti (1997)	1963-1995 Italy	stock market returns & the nominal interest rate	The study concluded that there is a strong negative relation between real stock index level and the inflation rate.
Khalid Nadeem Khan (2004)	1980-1999 Pakistan	The rate of inflation & stock return	The study concluded that real rate of return on financial assets was decreased by the inflation strengthens frictions in the stock market which lead to a decrease in trading and capitalization in the stock market.
Muhammad Shahbaz Akmal (2007)	1971-2006 Pakistan	Inflation & stock market prices	The study concluded that the under-ground economy (black economy) promotes higher prices for stocks on long run and on short run while the stock returns are hedges against inflation on long run only.
Ang, Andrew, Marie Brière, and Ombretta Signori (2012)	1994-2010 USA	Inflation & stock market return	The study concluded a considerable time variation among stock inflation betas, which leads to a difficult construction of portfolios from stocks that are strong out-of-sample inflation hedges. This result holds for sector portfolios, portfolios constructed on past-inflation betas, and portfolios constructed from high-dividend-paying stocks.
Samuel Antwi Ebenezer- Fiifi Emire Atta Mills -Professor Xicang Zhao (2012)	1990-2010 Ghana	Treasury Bill and the Capital Market Instruments	The study proved that the returns on treasury bills are lower than returns on equities on the long run only. It also found that the average returns on listed equities and treasury bills are higher than the average rate of inflation.
Aviral Kumar Tiwari, Arif Billah Dar, Niyati Bhanja, Mohamed Aro & uri Frédéric Teulon (2015)	1961-2012 Pakistan	Wholesale Price Index (WPI), Consumer Price Index (CPI) and stock prices	The study concluded that on the long run the stock market of Pakistan could act as hedge against inflation, in case that inflation does not erode stock returns values.
Halit Aktürk (2016)	1986-2013 Turkey	Nominal stock returns and inflationary expectations	The study concluded that the stocks of manufacturing industry firms provide a hedge higher by 15% than that of service industry firms. And stock returns did not provide a good hedge for ex-post realized expected inflation but provide a good hedge against ex-ante inflationary expectations.
Bampinas, Georgios, & Theodore Panagiotidis (2016)	1993-2012 USA	stock returns and CPI	The study concluded that the companies average inflation hedging ability declined steadily over the past ten years, while the number of firms that hedge inflation has decreased considerably
Iddrisu Suhaibu, Simon K. Harvey & Mohammed Amidu (2017)	1997-2013 12 African countries	GDP growth, inflation, monetary policy and stock market	The study concluded that In the long term, the study proved a bidirectional relation between monetary policy tools and stock market shocks in Africa. While stock market responds positively to interest rate shock, interest rate responds negatively to a negative stock market shock.
Hendrik Bessembinder (2017)	1926-2016 USA	Performance of stocks, treasury bills and market return.	The study concluded that more than four out of every seven common stocks that have appeared in the CRSP database since 1926 have lifetime buy-and-hold returns, inclusive of reinvested dividends, less than those on one-month Treasuries. In term of life time the gain of dollar wealth in the US stock market since 1926 is regarded being caused by the best-performing four percent of listed companies.
Angelos Kanas & Sotirios Karkalakos (2017)	1977-2011 USA & UK	equity flows and exchange rate	The study found that the UK investors engaged in a “trend chasing” which means a positive feedback trading to rebalance their portfolios, also the study found that there is a volatility spillovers across exchange rate returns, equity flows and equity returns. Finally the study found that equity returns are affected dynamically by net flows which explain the trading rule that portfolios are dynamically adjusted over a short - run affecting variation in stock returns.
Otieno, Donald A., Rose W. Ngugi, and Peter W. Muriu (2018)	1993-2015 Kenya	inflation rate and stock market returns	The study found that there are non-integer orders of integration in the stock market returns, the month-on-month inflation rate and the year-on-year inflation rate. This is not compatible with the nonstationary/stationary results often obtained from the conventional unit root tests and indicates that any shocks to the variables will continue steadfastly but usually disappear.

Li, X., Su, C. W., Chang, H. L., & Ma, J. (2018)	2003-2015 China	international capital movements (SICM), The exchange rate, short-term and stock prices (SP)	The study used the wavelet analysis to examine the effect of short-run international capital movements (SICM) on the interaction mechanism between the stock prices (SP) and the exchange rate. The bilateral co-movements between these variables are time-dependent and not compatible in some periods, and the flow of SICM is not enough to clarify the difference between the results determined by examining exchange rate nexus alone and SP and then examining it by considering SICM as a control variable so designating a limited mediating effect of SICM. But SICM still cannot be disregarded with the process of Renminbi internationalization and capital account liberalization.
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Through Literature review, the study finds the following:

- 1) There is an impact of inflation on stock returns; both in global and emerging markets; but this relationship may vary between the short and the long term.
- 2) There is a relationship between inflation, Treasury and the real returns of Treasury bill & stock returns.
- 3) There are many investors find in stocks as a hedge against the risks of inflation.
- 4) There is a correlation between Inflation and exchange rate.
- 5) Inflation and exchange rates cannot be analysed away from the economic policies implemented by the central bank and the financial authorities.
- 6) The exchange rate and inflation rates are one of the determinants of investment in equity and government debt instruments.
- 7) There is an impact of exchange rates on foreign investment flows to financial markets, especially when floating

1.4 State Hypotheses

According to the study problem & Literature Review, the Study Hypotheses can be show as follows:

- 1) There a significant impact of Inflation and Floating on return of Egyptian T-bills performance.
- 2) There a significant impact of Inflation and Floating on return of Egyptian common stock performance.
- 3) There a significant difference between the performance of common stocks and T-bills according.

1.5 Study Objective

The main objective of this study is to provide an analysis & comparison between the performance of common stocks and T-bills & conclude the impact of inflation rate and exchange rate floating on their Performance.

2. Method

Any investment decision is a relationship between risk and return, however, there are some models have analyzed this relationship such as the Capital Market Line [CML] (Markowitz, 1952), the Capital Asset Pricing Model [CAPM] (Sharpe, 1964) (Lintner, 1965) (Mossin, 1966) & the Arbitrage Pricing Theory [APT] (Ross, 1976).

These models are closely related to portfolio theory and provide an application on portfolio risk management, fund performance measurement, security valuation, etc. (Zabarankin et al., 2014) (Perold, 2004); but examination of these models is focused in USA & Europe (UK, France & Germany) but scarce in the Middle East stock market.

The study; According to the arbitrage pricing theory (APT), the trader at Egyptian exchange (EGX) has many opportunities trading when the monetary authorities (Central Bank of Egypt) are used interest rates and foreign exchange rates to implement the development plans in Egypt.

2.1 Data and Methodology

To achieve the objectives of the research and testing hypotheses the study uses the methodology of regression analysis and a cross section analysis using the data from Egypt. The study includes two types' financial instruments, its Treasury bill (T-Bill) & common stock over the period from 1994 to 2017.

2.2 Monetary Policies in Egypt

Monetary Authority aims to achieve price stability in a way consistent with the national objectives of stimulating economic growth, facing inflation and unemployment.

Central Bank of Egypt applied an indirect Monetary management, along with the reserve requirement ratio which was remained unchanged at 14%, and the discount rate which was lowered from 11% to 10% per annum through the periods “2002, 2003 & 2004” to reduce interest rates at banks and, in turn, encourage investment and boost economic growth.

2005, overnight deposit and lending rates were set at 9.5% and 12.5%, respectively, 2008-2009 these rates were raised to 11.5% and 13.5% respectively.

2010, overnight deposit and lending rates and discount rate were set at 8.25%, 9.75% and 8.50% per annum, in order, these rates were kept applicable till 2011; then these rates were raised & remained unchanged at 9.25%, 10.25% & 9.5% respectively till 2014.

2017, overnight deposit and lending rates were raised to 18.75% from 11.75% in 2016 & to 19.75% in 2017 from 12.75% in 2016, respectively.

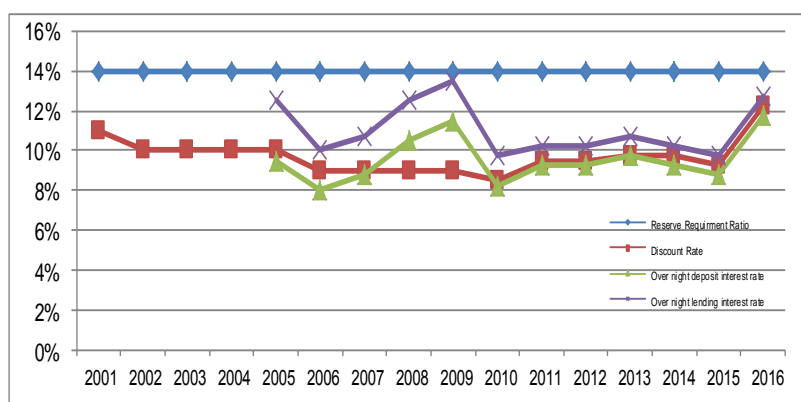


Figure 1. The main indicators of monetary policy in Egypt during (2001-2016)

Source: Central bank of Egypt Annual report (2001-2016).

2.3 Exchange Rate Policy in Egypt

During the period of sixties till 2001, exchange rate for Egyptian pound had been relatively stable relative to USD” pegged exchange rate regime”, except for periods when devaluations occurred to reflect a more competitive value for the exchange rate; so monetary authority tried to stabilize Egyptian pound exchange rate by adopting: “fixed adjustable peg, managed floating, and crawling peg “ exchange rate regimes.

Starting from the sixties till 1990 Exchange rate regime was “Fixed but Adjustable Peg”, when Egyptian authority kept the rate of Egyptian Pound to USD fixed, then it was devalued from 1.1 EGP per 1\$ to 2 EGP per USD in July 1990.

With the beginning of applying Economic Reform Program “In February 1991” monetary authority changed its exchange rate policy to a “managed floating”; as a result of this new regime Egyptian Pound devalued from 2 EGP to 3.4 EGP per USD, on average between February 1991 and December 2000.

Over the period of January 2001 to December 2002, the exchange rate of Egyptian Pound was devalued following “Crawling Peg”, when central bank set exchange rate at 3.85 EGP per 1\$, then it devalued Egyptian Pound exchange rate to 4.14 EGP per USD. Then as a result of the 9/11 terrorist act against USA and its consequences on Egyptian economy, which was reflected on losses in tourism sector, FDI & Suez Canal revenues, Central Bank of Egypt devalued Egyptian Pound one more time in January 2002 to reach 4.5 EGP per USD. Central Bank of Egypt kept this rate till its announcement of adopting” Free Floating ER Regime” in January 2003, when Egyptian Pound depreciated from 4.5 EGP in 2003 to be 6.3 EGP per USD in 2004.

In 2011 as a result of political and social instability which had great impacts on Egyptian economy, exchange rate depreciated by “5.17%” from 5.8 EGP in January 2011 to 6.1 LE per USD in November 2012, because of the huge decline in reserves during that period.

So it could be concluded that exchange rate of Egyptian pound was managed with various degree of flexibility against the US dollar till 2016 when the Central Bank of Egypt unexpectedly announced the free-floating of the pound on the 3rd of November, in an attempt to alleviate an ailing economy struck by a severe shortage of U.S.

Dollars & international reserves and a widening margin between black and official exchange rate markets, local currency depreciated to 13 EGP per USD, which represented a weakening of 46.3% from 8.88 EGP per USD previously.

The movement towards a free floating regime was a necessary condition for the IMF board to consider granting Egypt a loan of 12.0 billion USD, which would help plug the severe fiscal deficit that is set to run that year.

IMF officials praised the step taken towards normalizing the currency, stating that it will improve Egypt's external competitiveness and support exports and tourism.

2.4 Descriptive Statistical Methods

2.4.1 Performance of Egyptian Exchange (According to EFG Hermes Index)

Egyptian Exchange is one of the oldest stock markets established in the Middle East. The Egyptian Exchange traces its origins to 1883 when the Alexandria Stock Exchange was established, followed by the Cairo Stock Exchange in 1903; In the early nineties, Egypt began the application of the economic reform program, which included the activation of the role of the private sector, which revived the Egyptian capital market again, especially with the development of the capital market No. 95 Act, 1992, and in 1994 two exchanges transformed from a trading manual to use an electronic system for trading. In the second half of the nineties the government began the privatization program, which was put up a large number of companies through the stock exchange, which contributed to the recovery of the market dramatically, attracting a large segment of investors to the Egyptian market, where that period represents the real start for the prosperity of the Egyptian Stock Exchange again in the Covenant the talk.

Major index of Egyptian exchange (EGX) is EGX 30 index, but EFG Hermes Index is an older Major index & more diversification of Egyptian exchange (EGX).

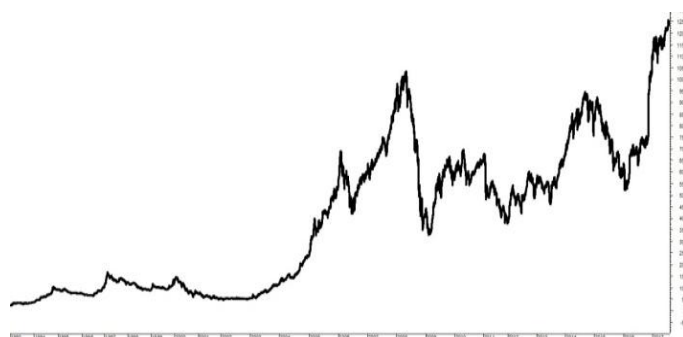


Figure 2. EFG Hermes index

Source: EFG Hermes.

EFG Hermes Index is older Egyptian Exchange Indexes; during the considered time period (1994-2017), the index reached its peaks in 10/1994, 2/1997, 2/2000, 1/2006, 4/2008, 4/2010, 9/2014 & 12/2017 but its bottoms in 7/1996, 12/1998, 1/2002, 6/2006, 2/2009, 12/2011 & 1/2016, so Egyptian Exchange has a level of volatility.

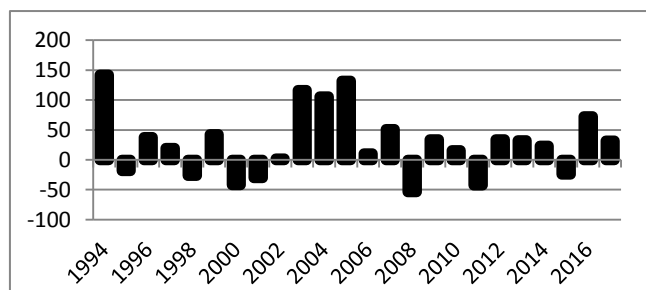


Figure 3. The performance of Egyptian exchange according to EFG Hermes index

Source: The authors according to EFG Hermes data.

From Figure 3, in 1994, 2003, 2004 & 2005 the return of Egyptian Exchange according to EFG Hermes Index more than 100%.

Table 2. Descriptive statistics of EFG Hermes index

Stock Return	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis		
According To Efg	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Hermes Index	-53.9366	141.9474	27.75841	54.99758	0.581507	0.472261	-0.25867	0.917777

Source: Statistical Package for the Social Sciences output.

From Table 2, the mean return of EFG Hermes Index, it is 27.75% but the stander deviation is 54.9976 that show a high level of risk for Egyptian Exchange.

2.4.2 Performance of Egyptian T-Bills (91 days)

Egyptian Government Treasury Bills is a Short-term security one year and less, The Central Bank of Egypt (CBE) issued treasury bills (T-bills) behalf of the Ministry of Finance (MOF). EGP Treasury bill Type (days) are 91, 182, 273& 364 days.

EGP Treasury bills commonly pay no explicit interest but are sold at a discount, their yield being the difference between the purchase price and the Face-value (also called redemption value). T-bills are very popular with institutional investors because, being backed by the government's full faith and credit, they come closest to a free risk.

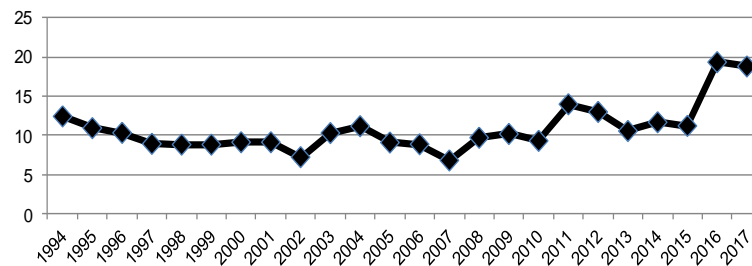


Figure 4. The performance of Egyptian T-bills (91 days)

Source: Central bank of Egypt.

From 1994 to 2017, the higher return of Egyptian T-bills (91 days) is 19.316% at 2016 but the lower return of Egyptian T-bills (91 days) is 6.781% at 2007.

Table 3. Descriptive statistics of Egyptian T-bills (91 days)

Egyptian Treasury bills Return	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis		
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
	6.78	19.32	10.7951	3.0373	1.711	0.472	3.176	0.918

Source: Statistical Package for the Social Sciences output.

From Table 3, the mean return of return of Egyptian T-bills, it is 10.7951% but the stander deviation is 3.0373 that show a high level of risk for Egyptian Exchange;

2.5 Inferential Statistical Methods

2.5.1 Examine Impact of Inflation and Floating on T-Bills Performance

To measure the significant impact from inflation and Floating on T-bills performance, use regression analysis; Tables (4&5) show this output.

Table 4. Model summary for T-bills

Model Summary		Dependent Variable: T-bills Return		
		Independent Variables: inflation and Floating		
R	R Square	Adjusted R Square	Std. Error of the Estimate	
0.758452865 ^a	0.575250749	0.534798439	2.071596535	

a. Predictors: (Constant), USD_R, INFLATIO.

Table 5. The output of ANOVA test

	Sum of Squares	df	Mean Square	F	Sig.
Regression	122.0546183784	2	61.02730918921	14.22046735826	.000
Residual	90.12	21	4.291512202219		
Total	212.17	23			

Dependent Variable: T-bills Return;

Independent Variables: inflation and Floating.

Table 4 shows the summary of regression test, R-squared is equal to 0.575 This is considered as a high prediction probability level, that's mean that the independent variables can explain about 57.5% of the change that happens in the return of T-bills; according to ANOVA Test (Table 5) the Independent variables (inflation and Floating) have a significant impact on return of T-bills since that the significant level (1%) & Figure 5. Show Normal P-P Plot of Regression Standardized Residual for T-bills, it has a normality pattern.

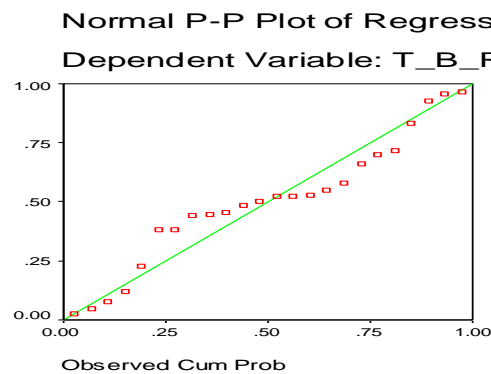


Figure 5. Normal P-P plot of regression standardized residual for T-bills

Source: Statistical Package for the Social Sciences output.

2.5.2 Examine Impact of Inflation and Floating on Common Stocks Performance

To measure the significant impact from inflation and Floating on common stocks performance, use regression analysis; tables (6&7) show this output.

Table 6. Model summary for common stocks

Model Summary		Dependent Variable: common stocks return according to EFG Hermes Index Independent Variables: inflation and Floating		
R	R Square	Adjusted R Square	Std. Error of the Estimate	
0.2326243298715 ^a	0.05411407884818	-0.03597029459485	55.977982238	

a. Predictors: (Constant), USD_R, INFLATIO.

Table 6 shows the summary of regression test, R-squared is equal to 0.054 This is considered as a low prediction probability level, that's mean that the independent variables can explain about 5.4% of the change that happens in the return of common stocks; according to ANOVA Test (Table 7) the Independent variables (inflation and Floating) have a no significant effect on return of common stocks since that the significant level (55.8%) is higher than 5% & Figure 6. Show Normal P-P Plot of Regression Standardized Residual for stocks, it not has a normality pattern.

Table 7. The output of ANOVA test

	Sum of Squares	df	Mean Square	F	Sig.
Regression	3764.655872682	2	1882.327936341	0.6007043927813	0.5575797517032
Residual	65804.22440419	21	3133.534495437		
Total	69568.88027687	23			

Dependent Variable: common stocks return according to EFG Hermes Index.

Independent Variables: inflation and Floating.

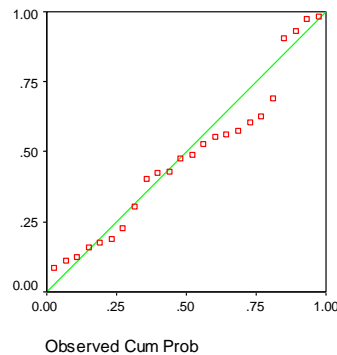


Figure 6. Normal P-P Plot of regression standardized residual for stocks

Source: Statistical Package for the Social Sciences output.

2.5.3 Comparative Returns between Egyptian T-Bills & Egyptian Stock

To measure the significant same returns between Egyptian T-bills & Egyptian common stock; use Mann-Whitney Test; Table 7 shows this output.

Table 7. Mann-Whitney test for comparative returns

	RETURN
Mann-Whitney U	219
Wilcoxon W	495
z	-1
Asymp. Sig. (2-tailed)	0.318

Source: Statistical Package for the Social Sciences output.

Table 7 shows the summary of Mann-Whitney Test, its significant same average return between common T-bills & stocks since that the significant level (31.8%).

2.5.4 Test of Homogeneity of Variances between Egyptian T-bills & Egyptian Common Stock

To measure the significant same Homogeneity of Variances between Egyptian T-bills & Egyptian common stock; use Levene Statistic; Table 8 shows this output.

Table 8. Test of homogeneity of variances

	Levene Statistic	df1	df2	Sig.
RETURN	29.60078151684	1	44	.000

Source: Statistical Package for the Social Sciences output.

Levene statistic value is significant, at level of significance 0.05, which indicates that Egyptian T-bills & stocks variances of return are different.

2.5.5 Comparative Coefficient of variation between Egyptian T-bills & Egyptian Stock

To measure the significant same coefficient of variation between Egyptian T-bills & Egyptian stock use Mann-Whitney Test; Table 9 shows this output.

Table 9. Mann-Whitney test for comparative coefficient of variation

	Coefficient of variation
Mann-Whitney U	112
Wilcoxon W	388
z	-3.35
Asymp. Sig. (2-tailed)	0.001

Source: Statistical Package for the Social Sciences output.

Table 9 shows the summary of Mann-Whitney Test, it's not significant same Coefficient of variation between common T-bills & stocks since that the significant level (1%).

3. Conclusion & Recommendations

3.1 Study Conclusion

Egyptian Exchange is one of the oldest stock markets established in the Middle East its origins go back to 1883 when the Alexandria Stock Exchange was established, followed by Cairo Stock Exchange in 1903, in 1994 Egyptian Exchange returned to active their role in Egyptian economy, this study concluded that there is an impact of Inflation and Floating exchange rate on return of Egyptian T-bills, but didn't find this impact on return of Egyptian common stock; but when making a Comparative performance between Egyptian T-bills & common stock, the study found the same average return but a different variance of their return & the Coefficient of variation; This is due to the crowding out effect of government financial instruments to private sector's, which reflects financing budget deficit at the expense of financing economic development processes.

Thus, this study has the same results for Egyptian T-bills against inflation as many Previous studies; but it has different results for Egyptian common stocks performance under inflation with results at Italy (Bagliano & Beltratti, 1997); Pakistan (Akmal, 2007) USA (Ang et al., 2012) & in addition, this study has a same different when Comparative returns between Egyptian T-bills & Egyptian stock with results at Ghana (Antwi et al., 2012); In addition & for Egyptian common stocks, this study pointed to the impact of exchange rate Floating on short-run international capital movements (SICM), which is consistent with the study results of (Li, Chang, & Ma, 2018), finally, the study found a preference for investing in Egyptian Treasury bills relative to Egyptian common stocks in the long term, which is Indirect consistent with (Bessembinder, 2017).

3.2 Study Recommendations

Egyptian financial institutions have a higher weight of government debt instruments in their investment; so; Providing a development scenario for the legislative framework through the Central Bank of Egypt & Financial Supervisory Authority (Egypt) to determine the maximum limits of investment at government debt instruments, while providing a supportive policy for the entry of financial institutions in financing development projects; In this regard, we propose the use of non-monetary tools such as reserve components and capital parameter components for Egyptian banks, Mutual funds, pensions and insurance companies.

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Appendix A

Statistical Package for the Social Sciences output

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std.	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
INFLATIO	24	2.23	29.73	9.4494	6.3903	1.691	.472	3.518	.918
Valid N (listwise)	24								

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std.	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
STOCK_RE	24	-53.94	141.95	27.7584	54.9976	.582	.472	-.259	.918
Valid N (listwise)	24								

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std.	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
T_B_RE	24	6.78	19.32	10.7951	3.0373	1.711	.472	3.176	.918
Valid N (listwise)	24								

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std.	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
USD_R	24	-4.49	136.35	9.4013	27.9223	4.431	.472	20.712	.918
Valid N (listwise)	24								

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	INFLATIO ^b	.	Enter

a. All requested variables entered.

b. Dependent Variable: T_B_RE

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.543 ^a	.295	.263	2.6072

a. Predictors: (Constant), INFLATIO

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	62.628	1	62.628	9.213	.006 ^a
	Residual	149.548	22	6.798		
	Total	212.176	23			

a. Predictors: (Constant), INFLATIO

b. Dependent Variable: T_B_RE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.355	.964		8.666	.000
	INFLATIO	.258	.085	.543	3.035	.006

a. Dependent Variable: T_B_RE

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	USD_R, INFLATIO ^a	.	Enter

a. All requested variables entered.

b. Dependent Variable: T_B_RE

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.758 ^a	.575	.535	2.0716

a. Predictors: (Constant), USD_R, INFLATIO

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	122.055	2	61.027	14.220	.000 ^a
	Residual	90.122	21	4.292		
	Total	212.176	23			

a. Predictors: (Constant), USD_R, INFLATIO

b. Dependent Variable: T_B_RE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.977	.773		10.323	.000
	INFLATIO	.241	.068	.507	3.554	.002
	USD_R	5.770E-02	.016	.530	3.721	.001

a. Dependent Variable: T_B_RE

Regression

Variables Entered/Removed^b

Model	Variables Entered	Variables Removed	Method
1	USD_R, INFLATIO ^a	.	Enter

a. All requested variables entered.

b. Dependent Variable: STOCK_RE

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.233 ^a	.054	-.036	55.9780

a. Predictors: (Constant), USD_R, INFLATIO

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3764.656	2	1882.328	.601	.558 ^a
	Residual	65804.224	21	3133.534		
	Total	69568.880	23			

a. Predictors: (Constant), USD_R, INFLATIO

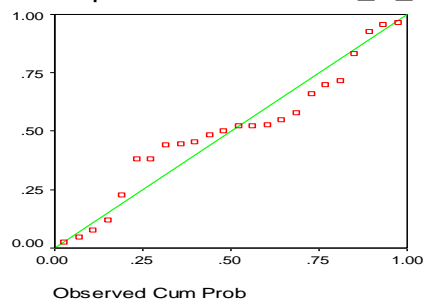
b. Dependent Variable: STOCK_RE

Coefficients^a

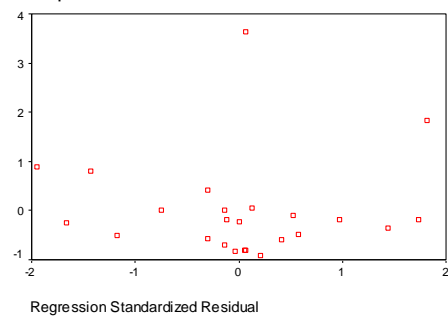
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	22.496	20.881		1.077	.294
	INFLATIO	.103	1.831	.012	.056	.956
	USD_R	.456	.419	.231	1.088	.289

a. Dependent Variable: STOCK_RE

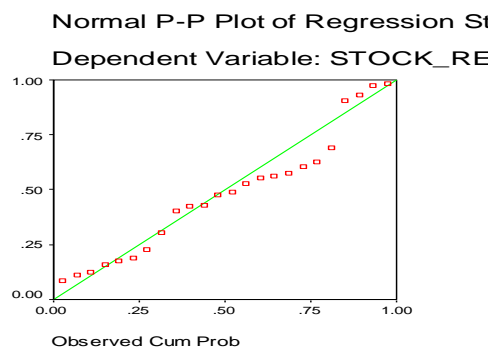
Charts

Normal P-P Plot of Regression Standardized Residuals
Dependent Variable: T_B_RE**Scatterplot**

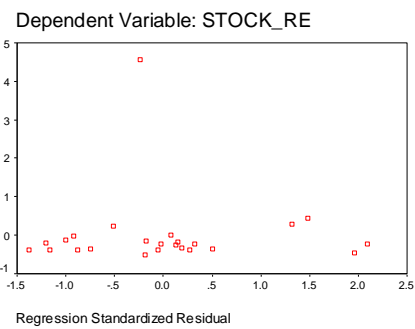
Dependent Variable: T_B_RE



Charts



Scatterplot



NPar Tests

Mann-Whitney Test

Ranks

	TYPES	N	Mean Rank	Sum of Ranks
RETURN	1.00	23	25.48	586.00
	2.00	23	21.52	495.00
Total		46		

Test Statistics^a

	RETURN
Mann-Whitney U	219.000
Wilcoxon W	495.000
Z	-1.000
Asymp. Sig. (2-tailed)	.318

a. Grouping Variable:
TYPES

NPar Tests

Mann-Whitney Test

Ranks

	TYPES	N	Mean Rank	Sum of Ranks
CV	1.00	23	30.13	693.00
	2.00	23	16.87	388.00
Total		46		

Test Statistics^a

	CV
Mann-Whitney U	112.000
Wilcoxon W	388.000
Z	-3.350
Asymp. Sig. (2-tailed)	.001

a. Grouping Variable:
TYPES

Oneway

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
RETURN	29.601	1	44	.000

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
RETURN	Between Groups	2393.126	1	2393.126	4.131	.048
	Within Groups	25487.070	44	579.252		
	Total	27880.196	45			

Appendix B

EFG Hermes Index Components:

- Abu Dhabi Islamic Bank- Egypt (ADIB)
- Alexandria Spinning & Weaving (SPIN)
- Arab Cotton Ginning (ACGC)
- Asek Company for Mining - Ascom (ASCM)
- Canal Shipping Agencies (CSAG)
- Citadel Capital - Common Shares (CCAP)
- Eastern Tobacco (EAST)
- Egyptian Financial & Industrial (EFIC)
- Egyptian Iron & Steel (IRON)
- Egyptian Media Production City (MPRC)
- EL Ezz Aldekhela Steel - Alexandria (IRAX)
- El Kahera Housing (ELKA)
- El Nasr Clothing & Textiles (KABO)
- El Saeed Contracting & Real Estate Investment (UEGC)
- Electro Cable Egypt (ELEC)
- GB AUTO (AUTO)
- Heliopolis Housing (HELI)
- Naeem Holding (NAHO)
- Qatar Natl Bank (QNBA)
- Remco Touristic Villages Constr (RTVC)
- Sinai Cement (SCEM)
- Six of October Development & Invest (OCDI)
- Suez Canal Bank (CANA)
- United Arab Shipping (UASG)

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