Testing Strong Form Market Efficiency of Jordanian Capital Market: Performance Appraisal of Mutual Funds a comparable study case with Saudi Arabia

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Summary

This paper analyses the strong-form efficiency of the capital market in Jordan by evaluating the performance of mutual funds over the period from 2011 to 2016, and compare it with the situation in Saudi Arabia using the Jensen modelling techniques. These tests were applied on monthly data. Results from the study show that there is no evidence of the strong-form of efficiency in either the Amman Stock Exchange or in the Saudi Arabia capital market. Therefore, investors in the Amman Stock Exchange and Saudi Arabia capital market cannot predict stocks prices or returns in the short term; with regard to firms, it suggests that the securities of firms cannot outperform the market and present market price is to a certain extent a true reflection of the present situation of their securities, in addition there is lack number availability of the mutual funds in Jordan.

Keywords: Efficient market hypothesis; Amman Stock Exchange; Jensen modelling technique; Strong-form efficiency; Abnormal Rate of Return.

Journal of Economic Literature (JEL)codes: G13, G14, G41

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INTRODUCTION

In Jordan corporate insiders are required to disclose their trades to the Securities and Exchange Commission (JSC, 2019). The JSC Act requires the insiders to report their trades to the Commission within ten days following the end of the month in which the trade occurs. In this paper, the disclosure affects the trading strategies of competing insiders with imperfect information, and the implication of such trading strategies on market efficiency, market liquidity, and insiders' profit will be analyzed under the Jensen test modeling technique.

The stock markets play a crucial role in capital allocation and its transformation from savings to financing new investment initiatives, consequently creating more wealth**.** The efficient and effective operation of financial markets, particularly capital markets, constitutes the foundation of the development of the modern economy. Moreover, the financial investments on capital markets refer to the flow of all streams of funds managed by banks and financial institutions, mainly the stock exchange and institutions investing in the capital markets around the world and on different ways, i.e. investment funds, pension funds and insurance companies.

Many researchers want to illustrate the meaning of capital market efficiency and insist that the definition itself still remains without change as what Fama define it, although the new internet world means getting data is easier and more manageable, (Shapiro & Wilk 1965) (Fama, 1970) gave it a name that efficiency its possible in these days by talking about the right for all the investors to access information at the same time and

without any insider trading. There is no doubt that the market in general tries to manage the relationship between the borrowers and lenders and tries also to manage the saving percentage by offering new products or services. From another point of view, what customers need these days will become old fashioned in the future. Those who try to keep the past will face a lot of problems to modify in the future. The new version of computers is a good example: while the companies were competing to be the first to use computers in the 1990s, now the same computers are not enough efficient to do the same job. In other words, markets also change and there is a need for a new definition which borders new meanings. Efficiency is also important as we use new methods to sell and buy products and services, such as using new methods for delivering information to investors efficiently.

Efficiency is used to refer to the ability of the capital market to act in such a manner that security prices reflect the current information and new information flows from the market in an unbiased manner, so the prices should be determined on the basis of demand and supply(Fama & MackBeth 1973). In an efficient market the security prices are supposed to be reflected in an unbiased manner, the flow of the information should be in (smooth, and all public information is accessible to investors and same at the same time). So that means there is no advantage in using

private information to achieve excess returns (superior return) among others from investors

(means all visitors have same chance to achieve same return), in an efficient market, while

the prices of shares are absorbing the new changes of the information.

There are three forms of information efficiency of a market that may be verified. Testing weak form efficiency provides information on the reflection of the historical values of share prices. Most research on the subject proves the validity of the hypothesis that the technical analysis does not allow the achievement of abnormal rates of return (Fama 1991). In the case of the semi-strong form the empirical research does not provide explicit answers; however, most research weighs in favor of the hypothesis of the semi-strong form of market informational efficiency. According to the hypothesis, it is impossible to achieve above-average profits in the long run, based on technical and fundamental analysis (Fama 1991). The strong form efficiency represents another type of market informational efficiency, which is the most difficult to verify, as it requires the use of non-public information.

The main objective of stock markets is to provide capital inflow for entities issuing stocks, thereby allowing them to grow and to create wealth for investors, who invest their free capital in stocks, that they perceive as attractive investments. Moreover, the capital market is a place, where the current market value of a company is determined by the supply and demand of its shares. Reliability of the stock valuation process is substantially correlated with results obtained in the verification of the hypothesis of the stock market efficiency. The subject of market efficiency is very often brought into question by practitioners and theoreticians from the financial sector, who build and verify investment strategies.

One of the ways to test this level of efficiency is event study. This can be used to evaluate the behavior of share prices with publicly available information. It is used for typically different reasons. The first use of it is with the semi-strong form efficiency test, on the assumption that the postulates of the market efficiency hypothesis hold. The second use of the event study is as a tool for examining the impact of some event on the wealth of firms' shareholders (Barnes & Ma, 2002) (Khotari & Warner 2009). The third use is the same purpose as in this paper which is the strong form of efficiency test (Wong 2002). Investigating nominal price changes at the time of stock splits, where he tested the effect of unexpected dividend changes on the changes of stock prices, which is taken to be a breakthrough in testing market efficiency. Over the past half century, event studies have been employed in much research and their sophistication has been greatly improved by studies such as Fama et al. (1969).

But I will not use this technique, as it has been used already in testing the semi-strong form of efficiency in the capital market of Jordan. In strong form of efficiency it is possible to use the event study, as used previously in Bustanji (2019)

The objectives of the present study are as follows:

1. To study and analyze the equity and balanced schemes of mutual funds;
2. To compare the performance of mutual funds with the benchmark indicator;
3. To find out whether share funds in Jordan outperform mutual funds Saudi Arabia or not;
4. To discuss the market trends of mutual funds compared with those of the benchmark index;
5. To examine the mutual fund performance in the Jordanian capital market;
6. To test the existence of the strong form of Efficient Market Hypothesis in Jordanian Capital Market by evaluating the performance of mutual funds;
7. To find out whether it is possible to develop a long-term investment strategy, that will enable investors to achieve abnormal rates of return.

LITERATURE REVIEW

The full reflection of all relevant information has always been the main topic of the strong-form financial

market efficiency, with all historical and public, private or insider information. Prices immediately react to new information, so the chances of finding undervalued and overvalued securities are random. The above implies that the market is "unbeatable" and that active investment strategies are in vain.

The basic task of this type of test. also known as a privet information test, is to determine whether insider-based trading yields above-average returns Betzer & Theissen (2009) Seyhun (1986) (Finnerty, 1976) give an affirmative answer, for example proving that insider trading brings risk- and transaction-cost-weighted above-average return. With the help of privileged information, insiders buy stocks before the price rises and sell them before the price drops. The results of these studies provide evidence against the validity of strong-form EMH.

There is a difference in the behavior of investors. For example, insider information is forbidden in all of the capital markets around the world and a person who tries to do this runs the risk of being arrested, in. Alternative evidence relates to the performance of mutual funds. These institutional investors invest knowledge, time, and money to collect information about company performance. The collected information is not publicly available, as it is private, unlike insider information, it is legal because it is based on analysis.

The strong form of the efficient market hypothesis assumes all available public and private information is fully reflected in a security's market price. The strong-form, in terms of market participants, also assumes that no individual can have higher expected trading profits than others because of monopolistic access to information. One possible test of the strong-form is to determine whether insiders earn better than average profits from their market transactions. To ascertain if the market is truly efficient will involve determining how well insiders do relative to the market in general. To date, some work has already been done in evaluating rates of return earned by insiders trading for their accounts. Some researchers focusing on how calculated rates of return earned by insiders trading for their accounts and their work lends some support to the hypothesis that insiders do earn above-average profits, (e.g., Glass, 1966; Pratt & De Vere 1978; Rogoff 1964; Jaffe 1974a, 1974b). A major shortcoming of these studies centers on data availability, as no precise price per share or date of insider trades were reported to the Securities and Exchange Commission (S.E.C) before 1965. Further, except for Jaffe, the studies do not incorporate an explicit adjustment for risk. An additional problem with all the studies is the skimming of the cream of the crop in their sample selection. That is the selection of samples based on "intensive" insider trading criteria, i.e., the samples are biased in favor of whose performance would more than likely be superior to the average insider. This bias, while not affecting their results relative to the semi-strong-form, invalidates the findings for a test of the strong-form.

However, researchers wrote also about the strong form of efficiency using different models to get results. Some of this research is summarized it in a list 1.

From the table it is easy to notice that this topic was used in different markets and used different models to get reliable results. Some similarities and differences can be noticed, especially from the test used at the same level of efficiency and the same study style but with differences in the results. An example is Kyle (1985) and Cao & Ma (1999), both of whom used almost the same models but did not agree about the relationship of liquidity and the final paper results to conclude whether that market is efficient. I think that the current study looks at the problem research with more dimensions and objectivity.

Table 1
Summary of results on different markets and models used for strong form of capital markets

Authors	Topic	Market name	Source of Data	Name of the test used	Period of study	Results
Finnerty (1976)	Insiders and Market Efficiency	NYSE firms	S E C 's Official Summary of Stock Transactions	Regression analysis and various tests for portfolio	from Jan. 1969 to Dec. 1972	Insiders can outperform the market. Insiders can and do identify profitable as well as unprofitable situations within their corporations inefficient market on the strong form
(Chau & Vayanos, 2008)	Strong-Form	infinite model	General competitive market	Kyles (1985) model	General theoretical review	First, markets can be close to strong form efficiency even in the

	Efficiency with Monopolistic Insiders	with a monopolistic insider	(theoretical data)			presence of monopolistic insiders. Second, despite being close to efficiency, markets can offer significant returns to information acquisition
Kyle (1985)	Continuous Auctions and Insider Trading	General market	Mathematical	Dynamic Kyle model	General theoretic review	He used a model and tried to prove if its working to discover the insider trading, makes the simplified assumption that the market is organized as a series of batch auctions, which is not characteristic of capital markets.
(Cao & Ma, 1999)	Trade Disclosure and Imperfect Competition among Insiders	NYSE Market when there are multiple insiders	They analyzed the effects of trade disclosure throw a disclosure of the listed companies in NYSE	Dynamic Kyle model	They focused on disclosure when there are multiple insiders for different period series	Market is more liquid, and insiders make more profit with positively correlated signals. This contrasts with the BCW model in which insiders' signals become almost perfectly negatively correlated near the end. of trade which causes the market to be very illiquid and inefficient compared to the monopolistic case
(Khan & Sana, 2010)	Testing Strong Form Market Efficiency of Indian Capital Market: Performance Appraisal of Mutual Funds	Indian Capital Market	Mutual Funds using monthly returns, based on NAV's of 8 fund schemes.	Risk and Return Analysis, Sharpe's measure, Jensen's measure, Treynor's measure and Sharpe Differential returns	from 1st April 2000 to 30th April 2010	mutual funds earn higher return than the benchmark indicator
(Potocki & Świst, 2012)	Empirical test of the strong form efficiency of the Warsaw Stock Exchange: the analysis of WIG	Poland Warsaw	The research sample consists of 3,270 recommendations	1 January 2005 and 31 March 2010 by 63 financial entities	rate of return from the WIG index	supports the thesis of the existence of the strong form efficiency of the Warsaw Stock Exchange

	20 indexes shares					
Lekovic (2018)	Evidence for and against the validity of efficient market hypothesis	various financial market	Mathematica l models (theoretical)	tests for private information	General theoretic al review	many market anomalies have not lived long after appearing in financial literature, efficient market hypothesis cannot be tested in isolation, but only together with the corresponding equilibrium model

Source: Compiled by author.

The idea of market efficiency was formalized based on the conditional expected value relative to relevant information. This theory assumes that conditions of market stability may be expressed by the value of the expected returns achieved on an effective market.

There is a lack of studies on the Jordanian capital market and research-informed recommendations for managers, investors, shareholders, and government authorities in making their decisions for motivating the capital market cycle and attracting more investments. From those points, this study gets its importance in pointing out specific details in the Jordanian capital market. Hopefully, this study will find its way for new recommendations for the capital market of Jordan.

IMPORTANCE OF THE STUDY

This study has to achieve some objectives:

Problem statement

This study seeks to measure the behavior of stock prices in the Amman Stock Exchange (ASE), and also compare it with a neighboring country, Saudi Arabia, taking into consideration the differences and trying to understand weather the capital market of Jordan is rehabilitating from the financial world crises in 2008. Strong form efficiency means that investors with access to general information, as well as those having access to non-public information, are not able to "beat the market" and achieve abnormal rates of return. The authors of this publication assume that the recommending institutions have access to nonpublic information. This article attempts to verify strong-form efficiency based on recommendations issued by 63 financial institutions in Jordan. The analysis was carried out based on the simplified assumption that financial institutions issuing recommendations could also use information not available to the average market participant (for instance non-public and confidential information). This assumption does not imply that having such information is a necessary condition for developing stock recommendations. Moreover, it is important to mention that Jordanian law prohibits exploiting non-public (inside information) or in conducting transactions on the capital market.

Scope

The present study tests the strong form market efficiency of the Jordanian Capital Market by evaluating the performance of mutual funds and comparing it with Saudi Arabia. Investment in mutual funds is the safest mode of investment by people despite having various avenues of investment, as it diversifies the risk. The study covers the period from 2011 to 2016. In the present study, the scope is limited to some prominent schemes of only four Jordanian mutual funds, depending upon their nature and their inception period. With limited numbers of mutual funds in Jordan, the authors will test the valid and liquid mutual funds.

The measurement of performance utilized in this paper is the widely used Jensen (1968, 1969) measure, which uses the security market line to evaluate fund performance. The Jensen measure may indicate poor performance when the manager possesses and utilizes superior timing information.

Importance of the study

This study came to achieve some objectives in practice:
1. To assess the growth and development of the Jordanian Capital Market;
2. To test the efficiency of the Jordanian Capital Market;
3. To develop an understanding of the concept and role of efficiency and easy to compare the Jordanian capital market with another market at the same level of efficiency;

4. To study the relationship between the movement of stock prices and disclosures, in other word the efficiency of management listed company shares and its price behavior;

5. To test the existence of the strong form of Efficient Market Hypothesis in Jordanian Capital Market in the context of (SCL), and (CAPM);

6. Study in detail the insider trading (if available) to help taking procedures for protecting the right for all investors getting the information at the same time;

7. To test the existence of the strong form of Efficient Market Hypothesis in the Jordanian capital market in the context of the Jensen test;

8. To study in detail the securities of firms, specifically weather it is possible to outperform the market and present market price or if there is a true reflection of the present situation of their securities.

DATA AND METHODS

The data is collected from several sources. The news archives of the Jordan Securities Commission (JSC, 2019) and Amman Stock Exchange (ASE, 2019) are primary source. Some information is available on the website of banks' in Jordan, especially in HBTF (2019) to official information for making the compassion between the Saudi Arabian and Jordanian capital market (Mubasher, 2019).

The data were collected from January 2011 to December 2016, because of insufficiency availability of data after 2016 for some mutual funds. Another limitation is the low number of the mutual funds in Jordan while it was only about two funds with a comparison with Saudi Arabia 267 mutual funds. The researcher understands that the number of mutual funds is not high but it is still worth doing a study on the available information for better recommendations to compare with the suitable country situation. According to the law in capital markets, companies listed on Financial Securities market are required to provide the market regulator with the important news, but the definition itself for "disclosing new information" from the Jordanian Securities Commission is still not obvious, when compared with the same level of disclosure with a comparison of other countries for example Lithuania, which stipulates, "Immediately but not later than the news is announced to the mass media" (LSC, 2018)

"The Stock Exchange shall immediately disclose information and data it receives which may have an impact on the prices of securities and trading." (ASE, 2019). The word "immediately" needs to be defined in the Amman stock exchange to enhance the effective tools in the capital market.

Methodology
Jensen test

The main points in this model test is that Jensen's measure is the difference in the returns of an individual vs. the overall market, this difference is commonly referred to as alpha. When a manager outperforms the market concurrent to risk, they have "delivered alpha" to their clients, and it is also used to measure accounts for the risk-free rate of return for the period. In any managed portfolio it must be assisted by performance during a specific period. Suppose we wish to evaluate performance with excess return.

This portfolio is chosen from N assets with excess returns $r_{jt, j} = 1, ..., N$. Let r_{et} be the excess return on the portfolio that, from the point of view of the uninformed investor, is mean-variance efficient within the set of N tradable risky assets and whose orthogonal portfolio is used to compute excess returns.2 Next, assume that the uninformed investors' expected return on this mean-variance efficient portfolio is Ae and its variances σ_e^2. Let us say also it is possible to

imagine that there is expected return on assets **j** is μ_j and that the covariance

matrix of the returns $r = (r_1, r_2 ..., r_j ..., r_N , ..., r_e)$ is constant given the

information available to the uninformed investor. Given these definitions, it follows from Roll (1977).

$$r_{jt} = \beta_j r_{et} + \varepsilon_{jt}, \qquad \beta_j = \frac{cov(r_{jt,}\ r_{et})}{\sigma_e^2} \tag{1}$$

Let us say from the point of view of the uniformed investor, β_j it is a constant and $E(\varepsilon jt) = 0.$ At the same time, the portfolio manager is assumed to possess different information modifying results in time-carrying expected returns. In the result, it is clear that the portfolio weights will vary over time, as will the uniformed investor's expected value of r_{pt}, so, β_{pt} is likely to be time varying as well. We can write the returns on the managed portfolio as

$$r_{pt} = \beta_{pt} r_{et} + \varepsilon_{pt} \tag{2}$$

The manager of the fund potentially possesses two types of superior information, which are: number one is

the information about r_{rt}. Letting Φ denote the time t information set of the manager, if $E(r_{et}/\phi_t) \neq$ E(r_{et}) $= \mu_e$ the manager is said to possess timing information. When E($\varepsilon_{jt}/\phi_t\varepsilon_{jt}) = 0 \neq$ E the manager is said to possess selectivity information.

A popular measure of the performance of a managed fund is the Jensen test (Jensen 1968, 1969) measure, which is the intercept,

α_p, of a least squares' regression of r_{pt} on r_{et} which are already equations before. While the Jensen measure provides an accurate indication of the performance of a fund when the manager has selectivity information but no timing information (Jensen 1972), Admati & Ross (1985) show that when a manager has superior timing information, the Jensen measure, α_p, can be negative.

Grinblatt & Titman (1989) examine a class of performance measures that includes the Jensen measure and show that certain members of the class do not suffer from the problems that arise with the Jensen measure. The class of measures, called period weighting measures, is defined for a sample of T observations by

$$\alpha = \sum_{t=1}^{T} w_t\, r_{pt}$$

$$\sum_{t=1}^{T} w_t = 1$$

$$\sum_{t=1}^{T} w_t\, r_{et}$$

(3)

where the weights, W_t, are functions of the return on the benchmark portfolio. Their main result is that if $W_t > 0$ for all t, the performance measure, denoted α* when $w_t > 0$, converges in probability to zero for an uninformed investor and to a positive number for an investor with selectivity information and no timing information or selectivity information and independently distributed timing information. Grinblatt & Titman (1989) show that the Jensen performance measure is obtained by setting

$$W_t = V_e - \frac{(r_{et}-\bar{r})\,\bar{r}_e}{T\,V_e}$$

(4)

where $\bar{r}_e$ and V_e are the sample mean and sample variance of the benchmark return. It could be concluded again

$$\alpha_p = \sum_{t=1}^{T} w_t\, r_{pt} = \bar{r}_p - b_p\bar{r}_e$$

(5)

where b_p is the estimated least squares slope coefficient from a regression of r_{pt} on r_{et}. The problem that arises with the Jensen measure when the investor has timing information can be seen by examining the weights, w_t. For large values of r_{et}, $w_t < 0$. When the investor has timing ability, r_{pt} will, on average, be large when E (r_{et}l Φ) is large and will therefore also be large, on average, when r_{et} is large. These large returns will then receive negative weights, making it possible that α_p < 0 when the investor has timing information. Grinblatt and Titman propose restricting the class of performance measures to those with $w_t > 0$ to overcome the problem of a negative Jensen measure arising when the manager has timing information. Following their suggestion, suppose the utility function of the uninformed investor in period **t** is given by

$$U(W_t) = \frac{1}{1-\theta} W_t^{1-\theta}$$

(6)

where

W_t: is wealth at the end of period t, If the uninformed investor can hold the N risky assets and a riskless asset with return R_{ft}, end-of-period wealth is given by $W_t(y) = 1 + yR_{et} + (1{-}y) R_{ft}$, where beginning-of-period wealth is normalized to one. Choosing -y to maximize expected utility yields, E($W_t(\gamma *)^{-\theta} r_{et}$) = 0, where $\gamma*$ is the optimal choice of γ and ret is the excess return on the benchmark portfolio. An estimate of $\gamma*$ can be obtained by setting $W_t(\hat{\gamma} *)^{-\theta} r_{et}$= 0. Choosing the weights in $\alpha*$ to be $w_t = W_t(\widehat{\gamma^*})^{-\theta}$ will then satisfy the last condition in (3) above. Normalizing the weights to sum to one implies that the positive period weighting measure has the same units as r_{et} does. When multiple portfolio benchmarks are employed, the same procedures are utilized to obtain a γ for each portfolio in the benchmark.

$$\alpha^* = \sum_{t=1}^{T} W_t\left(\beta_p r_{et} + \varepsilon_{pt}\right) = \beta_p \sum_{t=1}^{T} W_t\, r_{et} + \sum_{t=1}^{T} W_t\, \varepsilon_{pt} = \sum_{t=1}^{T} W_t\, \varepsilon_{pt}$$

(7)

The choice of the benchmark to carry out the tests of performance is relatively straightforward. Grinblatt & Titman (1989) show that under reasonable conditions both the Jensen measure and the positive period weighting measure require only that we consider a portfolio that is mean-variance efficient from the point of view of the uninformed investor within the set of risky assets available to the manager. We thus do not need to measure the returns on a "market" portfolio that includes nontraded assets. The researcher does need to verify, however, that the benchmark chosen is, in fact, mean-variance efficient within the set of securities available to the fund manager. The next section describes the procedures we use to test for the mean-variance efficiency of the benchmark.

Hypotheses

a) **Testing whether mutual funds are earning a higher return than the benchmark. Null hypothesis (H0):** Mutual funds are not earning a higher return than the benchmark indicator.
   Alternate hypothesis (Hα): Mutual funds are earning a higher return than the benchmark indicator.
b) **Testing whether the Jordanian capital market is strong form market efficient.**
   Null hypothesis (H0): The Jordanian capital market is not strong form efficient.

   Alternate hypothesis (Hα): The Jordanian capital market is strong form efficient.

c) **Testing weather,the Jordanian Capital Market is outperforming the Saudi Arabian capital market.**
   Null hypothesis (H0): The Jordanian capital market is not outperforming the Saudi Arabian market.

Alternative hypothesis (Hα): The Jordanian capital market is outperforming the Saudi Arabian market.

RESULTS

For testing the hypothesis, the calculation has been done for the Jensen Model. We use the following equation:

Jensen Model $= R_f + \beta*(R_m - R_f)$

Where

R_m = Return on market

R_f = Risk Free Rate

β = beta coefficient of portfolio $= Cov_{xy} / Var_x$

X = Market return

Y = Stock Return

Performance Appraisal of Funds: Risk and Return Analysis for Capital markets

Table 2 introduces some general statistics on the Jordan and Saudi Arabia markets. In this table, 72 months were taken into consideration (5 years) as the same base. Table shows the risk-specific period free rate and the average annual risk-free rate is higher for Jordan, while Saudi Arabia collected the higher average market return and average monthly market return.

Table 2
General statistics on the Jordanian and Saudi Arabian markets

Jensen index		
	Jordan	**Saudi Arabia**
Number of trading months	72	72
Average monthly market return	-0.11%	0.36%
Average annual risk-free rate	**62.00%**	**4.21%**
Average market return	**-8%**	**26%**
Specific period risk free rate	**12.40%**	**0.84%**

Source: Calculated from various monthly report of securities commissions of Jordan and Saudi Arabia.

Performance Appraisal of Funds: statistics Analysis for Mutual Funds

Table 3 includes only two mutual funds for Jordan as there are only three mutual funds in total, one of which is no longer tradable anymore. The total number of mutual funds in Saudi Arabia 26; the sample selected from the total mutual funds from Said Arabia are included in Table 3. In Saudi Arabia in 2015, public mutual fund assets accounted only for 4.25% of GDP, i.e., USD 464 billion. Further, the value of assets of the Saudi mutual fund industry reached SR 102.9 billion in 2015. However, the data also shows many other parameters, for example the maximum amount for Jordanian mutual funds is about 36% while for Saudi Arabia it is about 604% in return percentage.

Table 3
General statistics for Jordanian and Saudi Arabian mutual funds

Name of mutual fund		Mean	Standard deviation	Standard error	Minimum	Maximum
Jordan	**ALOfuq MF**	0.15%	0.44%	5.25%	-0.009	0.83%
	Stock exchange HB MF	0.10%	10.42%	7.43%	-75.00%	36.00%
KSA	**Ryadh MF for ryal trading**	-0.04%	0.47%	622.45%	-2.45%	0.23%
	Ryadh MF for dollar trading	-0.02%	0.18%	355.25%	-0.82%	0.11%
	Assundouq aldawli	-0.18%	4.64%	423.27%	-25.31%	8.13%
	Sanduq aleyadh alaqari aldawli	-0.26%	5.17%	6.25%	-14.83%	11.50%
	Sandouq Aletisalat	-0.38%	5.52%	5.31%	-23.08%	7.97%
	Sandouq alousahim alkhaligi	-0.14%	7.81%	6.54%	-37.86%	12.56%
	Ryadh for SMEs	0.30%	9.93%	182.49%	-37.74%	31.88%
	the British stock funds	0.41%	5.39%	84.61%	-27.41%	7.73%
	M F for future stocks	7.65%	72.29%	261.30%	-86.76%	604.77%

Source: Calculated from monthly reports of the securities commissions of Jordan (JSC, 2019a) and Saudi Arabia (Mubasher, 2019).

It has been taken only 2 Mutual funds in Jordan as there are only three Mutual Funds, one of them is not tradable anymore and the other 2 are still active. On the other hand, in Saudi Arabia in 2015, public mutual fund assets accounted only for 4.25% of GDP i.e., US$646 billion. 267 is the total number of the Mutual Funds in Saudi Arabia, against 2 in Jordan Further, the value of the assets of the Saudi mutual fund industry reached SR 102.9

billion in 2015. However, the data also shows many other parameters for example maximum amount for Jordanian Mutual Funds is about 36% while it is for Saudi Arabia is about 604% in return percentage.

Performance Appraisal of Funds: Jensen Modeling technique results.

Table 4
Jensen Test for the Jordanian and Saudi Arabia Mutual Funds

Mutual fund (M F) name		β	Jensen Expected return	α	Average sample Jensen Expected return
Jordan	**ALOfuq M F**	-1.03%	12.61%	-13.64%	12.73%
	Stock exchange HB MF	-2.18%	12.84%	-15.10%	
KSA	**Riyadh MF for royal Trading**	0.73%	1.024%	-0.29%	9.13%
	Riyadh MF for Dollar Trading	0.45%	0.96%	-0.50%	
	Assundouq Aldawli	33.88%	9.25%	24.63%	
	Sanduq Aleyadh Alaqari Aldawli	18.25%	5.37%	12.88%	
	Sandouq Aletisalat	17.69%	5.23%	12.46	
	Sandouq Alousahim Alkhaligi	94.81%	24.37%	70.44%	
	Riyadh for SMEs	94.81%	24.37%	70.44%	
	the British stock funds	8.22%	-1.20%	-7.02%	
	M F for future stocks	48.09%	12.77%	35.31%	

Source: Calculated from monthly reports of the securities commissions of Jordan (JSC, 2019b) and Saudi Arabia (Mubasher, 2019)

Given a beta of 24.63%, for example the mutual fund is expected to be riskier than the index, and thus earn more. A positive alpha in this analysis shows that the mutual fund manager earned more than enough return to

be compensated for the risk they took over the course of the year. If the mutual fund only returned 25.83%, the calculated alpha would be -1.2%. With a negative alpha, the mutual fund manager would not have earned enough return given the amount of risk they were taking.

Besides, average sample Jensen expected return for the Jordanian market 12.73 % - is higher than that for Saudi Arabia - 9.13 %. However, we must take into consideration that the large difference in the number of mutual funds means that this is not for a sure base to comparison.

TESTING THE HYPOTHESIS AND DISCUSSION

Statistical tests reject the first null hypothesis, where if the value of the test is positive, then the portfolio is earning excess returns. In other words, a positive value for Jensen's alpha means a fund manager has "beat the market" with their stock for achieving excess return, while the Jordan case with only two mutual funds (because of the limited mutual funds in Jordan) and based on Jensen test results, there is a possibility to achieve excess return with results around 12% positive. Saudi Arabia shows more variance in its results, with the maximum amount of 24% and minimum about -1% for only one negative result out of 9 mutual funds.

After analyzing the data, the researcher rejects the null hypothesis (**H0:** Mutual funds are not earning a higher return than the benchmark indicator), and accepts the alternative hypothesis Mutual funds earning a higher return than the benchmark indicator.

These results lead to another question. Is the capital market of Jordan a strong form of efficiency? The researcher rejects the alternate hypothesis (**Hα):** The Jordanian capital market is strong form efficient, and accepts the null hypothesis (**H0):** The Jordanian capital market is not strong form efficiency, because there is a possibility to achieve an excess return.

While the previous two hypotheses show that neither the Jordanian nor the Saudi Arabian capital market are the strong -form of efficiency it is also possible to compare the both capital markets by testing if weather the Jordanian capital market is outperforming the Saudi Arabian market or not. In this case, the null hypothesis is accepted the Jordanian capital market is not outperforming the Saudi Arabian market, and the alternative is rejected (**Hα:** Jordanian Capital Market is outperforming the Saudi Arabian market).

CONCLUSION

There is no doubts that the strategies which taken by the mutual fund's managers are a conservative investment way of investment. The Primary investment style followed is traced mainly by the market portfolio, in which the managers do not take the risk for achieving higher return, as the general rule in the finance world (more risk, more reward) to track risk aversion investors. Otherwise, they mostly try to adopt other stocks characteristics to diversify the fund's portfolio and realize an abnormal return; however, they are more attracted to the small, growth, and past winner stocks. This is because such stocks are less informationally efficient and are not dramatically followed by the investors; on the other side of the equation, this means that the stocks are less efficiently priced in the market, and this is a good opportunity for the managers to achieve an abnormal return in both environments of the study. This kind of stock is preferable to other stocks due to its growth, low liquidity, and long term stability.

Finally, the results from the study show that there is no evidence of a strong form of efficiency in either the Amman Stock Exchange or the Saudi Arabian capital market as well. Therefore, investors in the Amman Stock Exchange and the Saudi Arabian capital market cannot predict stocks prices or returns in the short term. Concerning the firms, it suggests that the securities of firms cannot outperform the market and the present market price is to a certain extent a true reflection of the present situation of their securities, although there is very limited availability of mutual funds in Jordan.

The study recommends that the Jordanian capital market establish a more suitable environment to attract more mutual funds in addition to adapting new strategy rather than trying to fix the current one, and recommends follow the good practice of neighboring country, at least in increasing the number of mutual funds. It should also open the international trading gate to these kinds of investments, if we still talking about the available liquidity in the capital market. In addition, it should create a coherent and comprehensive database for the mutual fund industry in both capital markets. Fund managers are also recommended to reassess their investment styles and maintain comfortable liquidity to adopt the rewarding investment styles at the right time to diversify the fund's portfolio and improve its returns.

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