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Appraising the Effect of Internal and External Organization Factors on Investment Mutual Funds' Return In Iran

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Abstract

One of the main functionalities of capital market is to improve liquidity in the market which provides security for the investors. Mutual funds are modern financial institutions which are designed with the aim of collecting funds from investors and devote them to buy a variety of securities in order to mitigate investment risks, exploit the economies of scale and finally create a reasonable return for investors. Regarding effective role of these funds, the goal of this research is presenting a model to review the main and important factors of internal and external organizational variables on funds return. In order to scrutinize the effect of variables of research on funds' return, the Fama-MacBeth multilateral regression model was exerted. We gathered data from 13 authorized mutual funds during a 65 week period or 16 months. Results denote that there is a meaningful and positive correlation between, internal organization factors of funds' ex-fluctuations of returns, funds' last periods' return, and also external organization factors of funds' age, funds' assets turnover rate and the funds' acquired return. The evidences also imply that there isn't any positive and meaningful correlation between internal organization factor of assets' under funds managers' control, and external organization

factor rate of injection of new money to funds and the funds' acquired return.
Keywords: investment mutual fund, open end mutual fund, net asset value, funds return.

Introduction

Capital market as a mirror of societies' economy has different functionalities. Nowadays, risk management and utilizing instruments to mitigate price fluctuations of securities in order to minimize probability of negative return of assets is quite generalized in many advanced financial markets. One of these effective financial instruments that have been successful in making stimulus in absorbing investors' partnership in systematized capital markets is mutual funds. Accordingly various kinds of mutual funds have been designed and set up to collect money from nonprofessional investors and devote it to efficient portfolios in order to reduce the risks and make a prevalent profit. Investment mutual fund is a kind of Investment Company with variable capital structure (also called open-end mutual fund) was founded in Boston state in US, in 1924. (Gremillion, 2005 4-6). These funds were established with the aim of running special management for buying and selling securities, reducing the investors' risks and at last as encouragement for development of capital markets. Having these funds launched, attractiveness of these sorts of investments caused their progress, so that by the end of 2008, the number of funds in US amounted over 8000 funds.

Open end mutual funds as one of the most successful financial intermediaries, in aspects of volume of transactions, the amount of capital owned, absorbing public investors and professional management of portfolios had been accessed significant progress in advanced financial markets for the last 30 years. This progress has been phenomenal, particularly in U.S and U.K as the founders and main innovators of launching these kinds of funds, as up to 2005, they have provided a suitable place for the investment of 50 percent of American families (Drivers of mutual funds, 2007, 65).Up to the end of 2006, totally there were 59,763 mutual funds in all over the world that united states, Europe and Oceania each, with 53, 35 and 11 percent respectively had the largest proportion in ownership of this funds and that from total amount of assets in these funds more than 47 percent were devoted to marketable stocks and the rest was invested to other securities in money markets or fiscal markets. Just in U.S, mutual funds with the capital of more than 14

trillion dollars had 22 percent of whole public companies stocks, 5.1 percent of whole treasury bonds and treasury notes were issued by the government and 18 percent of whole municipal and local bonds. After U.S, France with more than 1.1 trillion dollars investment in mutual funds has the second largest mutual funds industry. Since the first officially permission of mutual funds was issued at March of 2007 by Securities and Exchange Organization (SEO) in Iran and with regard to ever-increasing growth of number and value of said mutual funds in the globe, it is necessary, as well as continuous examining and observing the performance of mutual funds and their effect on Iranian capital market, to provide facilities of improving quantitative and qualitative condition of these funds and also facilitating establishment of other new financial institutions and instruments perfectly. The main goal of this research is to review the main and important factors of internal and external organization variables on funds return.

PRIOR RESEARCH

Study of Chen, Goldstein and Jiang (2008), Ivkovich and Weisbenner (2007), Huang, XWei and Yan (2001), clarify that because investors have a severe tendency to invest in mutual funds with excellent performance, so If the mutual funds' performance is weak they don't consider any penalty for it. It would enhance fund managers incentives to obtain extra risks for assets under their control (Weile and Zhang, 2006, 2).

Studies of Ross (2004) and carpenter (2000) imply that variances of level of mutual funds portfolio risks arise from agency problems and fund managers try to manipulate the level of portfolio risks to increase their compensations at the cost of imposing further risks to portfolios. Managers with regard to previous performance of mutual funds and in order to absorb residual cash resources and eventually to build up their compensation awards, manipulate the portfolio risks of mutual funds opportunistically (Barras et al., 2008, 1).

Additionally in a research was done by Berkowitz and Que (2002), they contrasted mutual funds' performance between mutual funds that was managed by those managers that their stocks were enormously transacted in the market and privately managed mutual funds. The conclusions imply that companies that their stocks were extraordinary traded in the market and also took on the duty of managing the mutual funds invested in high risk securities and besides compared with privately managed mutual funds, had further managerial costs. Simultaneously

return was adjusted by risk in these kinds of funds was not necessarily better than privately managed funds. These findings denote the role of minor risks and reduced agency costs on returns of privately managed mutual funds (Berkowitz and Qin, 2002, 2).

Brown and Harlo (2002) by means of measurement of evaluations based on return and its relation with models of risk alteration found out that; those managers who changed mutual funds risks, typically experienced weaker performance so mutual funds that adopted constant policies had better performance than those funds that had altered their policies.

Jennifer Huang, Clemens Sialm and Hanjiang Zhang (2008) in Texas State, at university of Austin brought about a research called "Mutual Funds performance and risk transition" researchers concluded that risk level in Mutual Funds has had a considerable modification during the ages. Study focused on this subject whether risk alteration level impacts funds performance or not. By using the measurement based on retention of risk transition, they inferred that mutual funds that their risk levels varied during the time and continuously changed from one level to another had much more desperate performance than those with constant risks. These conclusions about mutual funds that continuously altered their risks imply that because of agency conflicts, they came in contact with less ability to conduct their portfolio so they functioned opportunistically; instead mutual funds with adept and adroit managers are capable of exploiting opportunities resulting from investment alteration (Haung et al, 2008, 2).

In a study titled "Financial Literacy and Investing in Mutual Funds, Who Buys Units of Actively Managed Mutual Funds" two scholars in names of Sebastain Muller and Weber from Mannheim University extrapolated interesting results from their research. In this study that included 3000 clients of active mutual funds, the correlation between financial literacy and sociological variables was tested. With regard to mutual funds investments there had been various evidences based on effect of financial literacy on investing. Although more professional investors paid less load fees for investing in mutual funds and were less prejudice against previous return of mutual funds, there was no manifestation implying any relationship between financial literacy and load fees of active mutual funds (Muller and Weber, 2008, 2).

Three researchers from London University named Keith Cuthberson, Dirk Nittzsche and Niullo Sullivan evaluated mutual funds performance in

2006. In an academic research they evaluated mutual funds that had been active particularly for the last 20 years. The conclusions imply that just between 2 to 5 percent of U.S and U.K mutual funds had been better than benchmark models while about 20 to 40 percent of mutual funds showed poor and feeble performance (Cuthbertson et al., 2006, 4).

Regarding the existing complexities in managerial structure and also entering and exiting of investors in these funds, it has not been possible to found them until a few years ego. Evidently launching these funds as a kind of an active financial institution in Iranian capital market required some appropriate statutory infrastructures and regulating practical and supervisory regulations related to its own kind. The primary qualifications of launching mutual funds were provided after codification of act of securities market in November 2005 by the Islamic Consultative Assembly. Having related regulations enacted in Securities and Exchange Organizations(SEO) board of directors, up to the march of 2007, along with designing structure of activity in these funds, the first permission of activity was issued by SEO in order to provide an opportunity for mutual funds to attend actively as a new financial institution in Iran's' capital market which could also be an entrance gate for introducing other available institutions and investments from global capital markets to Iran's capital market. (Chavoshi, 2008, 28-37). With respect to the above mentioned mutual funds in Iran, no research has made about assessment of open end mutual funds.

RESEARCH METHODOLOGY

The applied model in this study is the naturalized multivariable of Fama_Mac Beth method that the main characteristic of that model is the highest level of specification among all existing models. According to certain studies that are implemented based on this model, the authenticity of main applied variables in said regression model has been approved. Structure of model has been formed from consolidation of sectional data with time series, so executing the model will be based on PANEL DATA.

CLASSIFYING DATA

Data of this research were gathered by means of Rayan Ham Afza, Sahra and Tadbir softwares relating to each fund from the beginning of the used period meaning September 2008 to November 2009 and the data codification process were completed by Eviews and Excel software.

Data have gathered in a weekly period to reach the best possible conclusion in a defined span of time, because the daily data of all mutual funds may not be depended on buying, selling, issuance or redemption of unit shares. In this research the average age of a fund is 545 days and the maximum age of a fund is 621 days (at the end of research period). All observations for every parameter are 845 and also all our sectional observations are 13 observations (equal to the number of mutual funds).

Additionally the data of assets of mutual funds are gathered on the basis of aggregation of assets. Cash inflow is computed by multiplying issuing price of new investment units to the number of issued units and cash out flow is the result of redemption price of investment units' times to redemptive units in a week. The net inflow of cash is calculated by deduction of cash inflow from cash outflow.

DURATION AND SCOPE OF RESEARCH

The considered time span at the present research with regard to the launching of the first mutual fund from March 2008 was selected as per similar period. The end of the period was set as November 2009. Hence the research includes a 16 month period that implementing the related model needed to be divided to 65 weeks. The scope of research was The Iranian capital market and all the mutual funds that had been given permission by Securities and Exchange Organization that at least had spent a two month period, were chosen as a sample group.

RESEARCH HYPOTHESES

According to determined target, hypotheses have been defined as follows:

H1: Internal organization factors (managerial) effect on funds return.

H2: External organization factors (environmental) effect on funds return.

Model and Research Variables

Research variables are presented in table No. 1.

In this study the following models are used for hypothesis test:

Regression model has defined on the basis of effective internal organizational factors as model # 1.

Model 1

$$RF_{f,t} = \beta_1 + \beta_2 \sigma^R_{f,t-1} + \beta_3 RF_{f,t-1} + \beta_4 logAUM_{f,t-1} + \varepsilon_{f,t}$$

Regression model has defined on the basis of effective external organizational factors as model # 2.

Model 2

$$RF_{f,t} = \beta_1 + \beta_2 logAGE_{f,t-1} + \beta_3 TO_{f,t-1} + \beta_4 GRM_{f,t-1} + \varepsilon_{f,t}$$

Table1: Variables and parameters of the model

parameters	symbol	concept
Dependant variable		
Dependent variable: return of mutual fund	$RF_{f,t}$	The dependent variable in each closing verse of the time will be individual return of each fund (f) in each separated month or week(t)
Independent (Explanatory) variables		
Internal Organization Factors		
Real fluctuations during the …(t-1)	$\sigma^{R}_{f,t-1}$	Fluctuations of return in the previous period
Return of the fund during the period(t-1)	$RF_{f,t-1}$	Amount of return in the last period
Managers' under control assets during the period(t-1)	$logAUM_{f,t-1}$	Log of under control assets
External Organization Factors		
The age fund	$logAGE_{f,t-1}$	Log (1 + AGE)
Rate of assets turn over during the period(t-1)	$TO_{f,t-1}$	
Rate of growth of (entrance) new cash, compared with last period	$GRM_{f,t-1}$	

RESULTS OF ESTIMATION

The single root test for dependent model variable and first estimation before final estimation of model has done. The importance of these tests is revealed when we intend to be informed by similarity of time series in a mixed data model. The fundamental of this test is based on this assumption that when coefficient of self correlation is one (ρ=1) then the

first grade self correlation: Y=Ut+ ρ Yt-1 will be dissimilar. If so, existence of one unique root proves instability and dissimilarity of time series. To response this purpose a contrivance had to be contemplated. Null hypothesis of this test imply an existence of unique root and if the probability is smaller than 0/05, then null hypothesis will be rejected with a 95 percent probability. On the basis of results summarized from table No. 2, the assumption of existence a unique root in a time series of dependent variable of research is rejected.

Table 2 – Single root test for dependent model (funds return)

Test for proving existence of unique root for Panel Data				
Statistical Approach	*Data for Width of center*	*Probability of existence of Unique root*	*T statistic*	*Number of Observation*
Null Hypothesis: *Existing Unique root*				
Im, Pesaran and shim	13	0	-19.1059	828
Augmented Dickey -Fuller	13	0	344.527	828
Phillips-Person	13	0	437.842	828

After single root test for dependent model, the first estimation and final estimation of affirmed model by GLS model is minimum weighted square.

To estimate the mentioned model, the subject of elimination dissimilar variance must be most considered. Moreover, on the basis of F-statistic test, statistics of model are meaningful and at first stage, variables like fluctuation of return, return of previous day and capital turnover, have affected the dependent variable, or the return of same mutual funds, meaningfully. This consequence can be received with referring to T_ statistics of every coefficient. The Durbin-Watson statistic model is also alleging the lack of self correlation in the model.

The first and the best estimation of model # 1 are shown in table No. 3 and table No.4

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Table 3: Model # 1 is shown the first estimation

Probability of Approving Null Hyp	T statistic	Standard Deviation	Estimated Coefficient	Variable
0.899	-0.126939	5.444371	-0.691101	Intercept
0	4.540813	4.963661	22.53906	SIGMA
0	-4.391169	0.860111	-3.776891	RF
0.8296	-0.215309	0.584637	-0.125878	AUM

With reference to table No. 4 it can be said that internal organization factors of funds' ex-fluctuations of returns, funds' last periods' return will effect on funds' acquired return.

Table 4: The best estimation of model # 1

Probability of Approving Null Hyp	T statistic	Standard Deviation	Estimated Coefficient	Variable
0.0153	-2.433442	0.427839	-1.041122	Intercept
0	4.18455	5.326343	22.28835	SIGMA
0.0004	-3.58195	0.912195	-3.267437	RF

The first and the best estimation of model # 2 are shown in table No.5 and table No.6.

Table 5: Model # 2 is shown the first estimation

Probability of Approving Null Hyp	T statistic	Standard Deviation	Estimated Coefficient	Variable
0.732	-0.117548	5.322011	-0.711202	Intercept
0.0107	2.561859	0.141531	0.362582	LAGE
0.6579	-0.443023	4.61E-11	-2.04E-11	MM
0.0244	2.257763	0.155462	0.350996	TO

With reference to table No. 6 it can be said external organization factors of age funds' assets turnover rate will effect on the funds' acquired return.

Table 6: The best estimation of model # 2

Probability of Approving Null Hyp	T statistic	Standard Deviation	Estimated Coefficient	Variable
0.0142	-2.393312	0.445220	-1.036131	Intercept
0.0147	2.446356	0.081507	0.199394	LAGE
0.0135	2.478404	0.145238	0.359960	TO

With reference to meaningful coefficient of research models, the models of research are shown below:

Model 1

RF_ = -1.0411 + 22.288 SIGMA_ (-1) - 3.267 RF_ (-1) + [AR (1) =-0.466]

Model 2

RF_ = -1.0361 + 0.1993 LAGE_ (-1) + 0.3599 TO_ (-1) + [AR (1) =-0.466]

SUMMARIES AND CONCLUTIONS

Having necessary information and getting acquainted with the nature of this industry for decision making about investments, is one of the most important points in every investing process. With due attention to behind philosophy of creating a structure with the name of Securities Exchange, for facilitating and providing opportunities for common investors and applicants, this right could not be taken away from those people under the pretext of lacking specialty in this field. So the best way for these investors who don't have adequate expertise or even don't have enough time for analyzing and examining the possible investment opportunities in the capital market is making investments through adept managements of this profession. Investment mutual funds were founded with the aim of creating expert management for buying and selling securities, mitigating investors' risks and eventually encouraging and driving development of capital markets. Primary qualifications for launching mutual funds in Iran were provided after Securities Market Act was codified in November 2005 by parliament (Islamic Consultative Assembly) of Iran. With regard to importance of this object, the aim of this research was to examine effect of internal factors (actual mutual funds fluctuations the return of mutual funds in the past period and assets under control of management) and external factors (age of mutual funds, rate of turnover of assets and growth of new inflow of cash into mutual fund), upon return of mutual funds. To do so, and in order to examine the effect of variables of research on performance of mutual funds, Fama-Macbeth multi variable regression model along with extracted data from 13 mutual funds in a 65 weeks period and also multivariable Fama-Macbeth model on the basis of panel data analysis were exerted. For implanting required tests in order to examine, conclude and analyze the subject of research tow main hypotheses were designed. The concluded results of hypothesis testing show that internal organization factors (managerial) of funds' ex-fluctuations of returns, funds' last periods' return will effect on funds'

acquired return. Therefore existence of a relation between risk and return was strongly approved. The reason of this relation may be high rate of stocks price fluctuations in Tehran stocks exchange and preferences of managers exert intense potential and poor fluctuated stocks in their portfolios.

Also, external organizational (Environmental) factors of age funds' assets turnover rate will effect on the funds' acquired return having this hypothesizes approved, it could be concluded that by passing the time, managers have been able to master situation appropriately, recognizing the opportunities properly, selecting combination of assets truly and conducting them to the best possible amalgamation and deployment. So actively managed mutual funds that have endeavored to benefit from opportunities of buying and selling stocks in the exchange suitably, would maximize investors' interests.

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