The Comparative Investigation of Investment and Manufacturing Company's Portfolio with an Emphasis on Market Return: The Case of Tehran Stock Exchange

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Abstract

The aim of this study is to conduct a comparative investigation of investment and manufacturing company's portfolio with an emphasis on market return in firms listed in Tehran Stock Exchange (TSE). Statistical sample of the research includes 14 investment firms and 14 manufacturing companies which are studied during the period of 2005 to 2009. Jensen model is used to calculate exceed return over market. The results indicate that both investment and manufacturing companies obtain higher return than market return. However, the return obtained by investment firms is higher than manufacturing companies indicating that investment firms have better performance than both market return and manufacturing firms.

Keywords: Investment and manufacturing companies; Portfolio; Market return; Tehran stock exchange

Introduction

The stock market has an important role in the allocation of resources, both directly as a source of funds and as a determinant of firms' value and borrowing capacity [1]. Sener and Pirinçiler [2] define financial investment as "generally using money in the hope of making more money". One of the factors which affect firm's growth is effective investments. Investments could be in form of increasing firm's capacities (physical assets) or in the form of investment in financial assets such as securities and bonds. Investors would like to evaluate the results of their investments and compare it with other similar investments.

According to Sharp et al. (2006) investment firms are financial mediators that finance by selling securities and invest it in financial assets of other companies to obtain return for their share holders. The main difference of these sorts of firms with other business corporations is that they buy and sell financial assets such and firms securities and bonds instead of buying and selling goods (Behzadi, 2007).

Making investment decisions are an integral and vital part of managing a firm, and thus an efficient investment decision is expected to enhance firm valuations [3]. Evaluation of portfolio performance is vital for investors. If the results of evaluation of portfolio performance are not promising, the reasons must be identified to change investment policies. Evaluation of portfolio performance is also important for traders to make decisions about holding, purchasing and selling investments. In addition, shareholders are looking for shares that have better performance related to other investment firms and market performance [4].

It is expected that investment firms make good investment decisions while they are professional in this and has sophisticated employees to do so. Unfortunately, investment firms have not gain so much development in TSE in the way that only 19 investment firms have been listed in TSE. This may stem from the fact that according to manufacturing firms' charter, they can create investment portfolio while in the most of other countries, this is a specific for investment firms. However, the most critical question that concerns us in this study is whether investment or manufacturing firms could obtain higher return than market return and specifically compare the performance of these two sorts of firms. The results may help potential investors in their investment decisions and also institutional investors to compare their performance. In addition, TSE is considered as an emerging market with some specific characteristic such as high inflation in which firms should obtain higher return than inflation, and also the results could give fresh evidence from emerging markets.

Literature Review

In 1952, Harry Markowitz [5] published his noble work "portfolio selection" in The Journal of Finance. According to him "one type of rule concerning choice of portfolio is that the investor does (or should) maximize the discounted (or capitalized) value of future returns". He proved that by using correlation concept, with changing the amount of funds invested in an asset considering correlation coefficient between returns, risk can be minimized and even in absolute negative one correlation, risk can be decreased to zero. In following, CAPM was developed by W. F. Sharpe. CAPM simplified Markowitz's Modern Portfolio theory, made it more practical. He show that when forming the diversified portfolios consisting large number of securities investors, the calculation of the portfolio risk using standard deviation technically complicated. After these pioneer works, researches developed portfolio performance evaluation [6]. Based on CAPM and risk and return concepts, in 1960s three researchers, Sharpe, Treynor and Jensen developed models to measure portfolio performance.

Many studies have applied these portfolio performance evaluation models since then, some of them is mentioned in following.

Hajibozorgi [7] in a research investigated the performance of investment firms in TSE. Studying four investment firms and using measures of annual return, stock price appreciation, bonus share and risk and return, they find that investment firms have a better performance than TSE total index.

Daee [8] investigated as to some investment firms in TSE. By analyzing their problems, stock price trend, financial ratios, beta factor, liquidity absorption find that these firms have a good performance in TSE.

Safari [9] in a research, analyzed the investment portfolio risk and return of insurance companies of TSE. By investigating the performance of portfolio in term of income and portfolio composition and return, he finds that these firms have not an optimal investment portfolio and their performance is not good as to risk and return.

Mashayekh [10] investigated about exceed return of 16 investment firms in TSE using Jensen model. They find that investment firms, on average, obtained higher return than market return. This result holds for short periods either.

Eslamibidgoli et al. [4] investigated the relationship between investment firm's performance with liquidity and firm's size in TSE. Using Jensen, Treynor and Sharp indexes, they could not find evidence to support their two expectations that means they indicate that there is not a significant relationship between investment firm's performance with liquidity and firm's size in TSE.

Ogawa and Suzuki [11] examined investment behavior in the Japanese manufacturing industry using investment revision data to analyze investment behavior from a fresh angle. They tested the martingale investment hypothesis and then the q-theory of investment by looking at the response of stock return and investment to news arriving at firms. The martingale hypothesis was accepted at early stage of investment planning, but not at later stages. They also found evidence for the validity of the q-theory hypothesis. They finally show that investment was responsive to profit rate revision and sales revision, but stock return responded only to profit rate revision.

Cheng et al. [12] studied the relationship between the quality of financial reporting and investment efficiency. They examine the investment behavior of a sample of firms that disclosed internal control weaknesses under the Sarbanes-Oxley Act. They find that prior to the disclosure, these firms under-invest (over-invest) when they are financially constrained (unconstrained). More importantly, they find that after the disclosure, these firms' investment efficiency improves significantly.

Lin et al. [13] investigated as to managerial optimism and investigate the influences of the different levels of managerial optimism on improving the investment efficiency when firms tend to under-invest or overinvest. Their results indicate that an under-invested firm with a CEO that has a high level of managerial optimism can improve the firm's investment efficiency by reducing the degree of underinvestment, further increasing the value of a firm.

Research Hypotheses

Investment firms are professional in investment business; however, it is expected that investment firms obtain more return than other firms. Therefore, following hypothesis is posited:

Hypothesis 1: Investments firms of TSE obtain exceed return on their investments than manufacturing companies.

As before mentioned investment firms are professional in investment business; however, it is expected that investment firms obtain more return than average market return. Therefore, following hypothesis is posited:

Hypothesis 2: investments firms of TSE obtain exceed return on their investments than market return.

Manufacturing firms may have exceed cash holdings. This cash may be invested in other firms to obtain return. In this process, manufacturing firms may hire professional consultants to give advice in investment decisions. Therefore, following hypothesis is posited:

Hypothesis 3: manufacturing companies of TSE obtain exceed return on their investments than market return.

Methodology

Considering that the aim of this study is to describe the position of investment and manufacturing firm's performance through their investments in securities, the study is descriptive research. The research data and information have gathered through two resources: information regarding developing conceptual framework and literature review is gathered by reviewing previous articles and required data of sample firms is collected through TSE database and related software. After data collection, SPSS software is used to testing research hypotheses applying t-test method.

The population of this study consist all investment and manufacturing firm's firms listed in TSE which is studied during the period 2005 to 2009. However, sample firms must have following conditions to be included in our sample:

1- Having investment in securities of TSE firms during the studied period.

2- Fiscal year must be ended at the end of Esfand (solar last month).

As a result of these conditions, 14 investment firms and accordingly 14 manufacturing firms are selected to be studied amounting to 140 observation.

Variables definition and measurement

Exceed return: The difference between average portfolio return on investments compared to average expected return on investments. Average portfolio return on investments is weighted average actual return of individual portfolio. Individual investment actual return is calculated using following equation:

$$R_i = \frac{P_{i,t} - P_{i,t-1} + DPS_t + x(P_t - M)}{P_{i,t-1}}$$

R_i: Actual return of investment

$P_{i,t}$: Stock price in time t

$P_{i,t-1}$: Stock price in time t-1

DPS_t: Dividend per share in time t

x: Capital increasing percentage

M: Cash contribution per share

Market return: average market return calculated through price index and cash return using following formulas:

$$\overline{R}_{mt} = \frac{Index_t - Index_{t-1}}{Index_{t-1}}$$

$Index_t$: Index value in time t

$Index_{t-1}$: Index value in time t-1

Jensen's differential return measure: According to Levišauskait [6] "portfolio performance evaluation involves determining periodically how the portfolio performed in terms of not only the return earned, but also the risk experienced by the investor. For portfolio evaluation appropriate measures of return and risk as well as relevant standards". Three portfolio evaluation measures are:

-Sharpe's ratio;

_ Treynor's ratio;

_ Jensen's Alpha.

Sharpe's ratio shows an excess a return over risk free rate, or risk premium, by unit of total risk, measured by standard deviation:

Sharpe's ratio=(řp– řf) / σp,

Here: řp - the average return for portfolio p during some period of time;

řf - the average risk-free rate of return during the period;

σp - standard deviation of returns for portfolio p during the period.

Treynor's ratio shows an excess actual return over risk free rate, or risk premium, by unit of systematic risk, measured by Beta [6]:

Treynor's ratio=(řp –řf) / βp,

Here: βp – Beta, measure of systematic risk for the portfolio p.

One of the common measure of investment performance is Jensen's differential return measure (or alpha). Like Treynor's measure, Michael Jensen proposed this approach based on CAPM. Jensen's Alpha shows excess actual return over required return and excess of actual risk premium over required risk premium. This measure of the portfolio manager's performance is based on the CAPM. According to CAPM, the expected return for portfolio p is expressed as:

E (Rpt)=RFt + βp [E (Rmt) - RFt]

Where E(Rpt)=the expected return on portfolio p in period t

RFt=the risk-free rate in period t

E(Rmt)=the expected return on the market in period t

E(Rmt) – RFt=the market risk premium during period t

βp=the beta for portfolio p.

Comparing the actual return to the predicted return, the difference is the alpha:

αp=Rpt – E (Rpt)=Rpt – { RFt + βp [E (Rmt) – RFt] }.

If the alpha is significantly positive, it suggests that this portfolio has superior performance than that justified by CAPM. On the other hand, a negative value of alpha is evidence of performance below expectations (Lin and Chen, 2006).

Beta coefficient as a measure of systematic risk measurement is calculated by following formula:

$$\beta_i = \frac{COV(r_i, r_m)}{\sigma^2 m}$$

$COV(r_i r_m)$: is co variation of securities return I to market return

$\sigma^2 rm$: variation of market return

Empirical Results

Hypotheses test

Main hypothesis: Investments firms of TSE obtain exceed return on their investments than manufacturing companies.

To test this hypothesis, the mean of two samples (investment and manufacturing firms) is compared. The results are shown in Table 1.

According to the results, in 2005, 2006 and 2007 investment firms obtained higher return than manufacturing firms. However, in 2008 and 2009 there is no difference between investment firms and manufacturing firms return. Taking the results of all years, our hypothesis is accepted meaning that investment firms of TSE obtain exceed return on their investments than manufacturing companies.

Sub-hypothesis 1: investments firms of TSE obtain exceed return on their investments than market return.

To test this hypothesis, firstly exceed return is calculated according to Jensen model for each 14 investment sample firms. Then t test is conducted to test this hypothesis which results are shown in Table 2.

The results indicate that in 2005 and 2006, the return of investment firms is higher than market return but in 2007, 2008 and 2009 not. However, taking the results of all years, our hypothesis is accepted that means investments firms of TSE obtain exceed return on their investments than market return.

Sub-hypothesis 2: manufacturing companies of TSE obtain exceed return on their investments than market return.

	Levene Test for Equality of Variances		t- test for Equality of Means				
year	F	Sig.	t	df	Sig(2–tailed)	Mean difference	Error difference
2005	842. 7	010.	000.4	26	.000	2227.73	30524.18
			000. 4	671.21	.001	2227.73	30524.18
2006	322.	575.	612. 3	26	.001	6324. 73	38766. 20
			612. 3	471. 24	.001	6324. 73	38766.20
2007	007.	936.	643. 3	26	.001	7031. 49	64207.13
			643. 3	260. 25	.001	7031. 49	64207.13
2008	424. 6	018.	078.	26	.939	0074. 1	97656. 12
			087.	654. 17	.939	0074. 1	97656. 12
2009	238. 1	276.	611.	26	.546	7035. 11	15146. 19
			611.	511. 19	.548	7035. 11	15146. 19
All years	130.	.721	373.5	26	.000	8538.41	78952.7
			373.5	758.25	.000	8538.41	78952.7

Table 1: The results of t-test for first hypothesis.

	t	df	Sig.(2– tailed)	Mean difference	95% Confidence Interval	
					Of the Difference	upper
					lower	41.6067
2005	162.2	13	.050	20.8110	.0512	66.6974
2006	981.1	13	.069	31.9294	-3.9098	39.7902
2007	596.1	13	.135	16.6564	-5.8698	1844.16
2008	995.	13	.338	5.1041	-5.2679	3590.3
2009	285.1	13	.221	11.3241	-7.7017	29.6274
All years	2.976	13	.011	17.1650	4.7026	

Table 2: The results of t-test for second hypothesis.

	t	df	Sig.(2– tailed)	Mean difference	95% Confidence Interval	
					Of the Difference	Upper
					lower	41.6067
2005	-3.366	13	.500	-52.4117	-86.0484	66.7496
2006	-3.340	13	.500	-41.7030	-86. 6752	39.2097
2007	-3.763	13	.200	-33.0466	-52. 0188	16.1844
2008	.344	13	.737	4.0967	-21.6548	3.3590
2009	-0.22	13	.389	-3.3793	-37.1149	29.6274
All years	-4.717	13	.000	-24.6888	-35.9972	

Table 3: The results of t-test for third hypothesis.

To test this hypothesis, firstly exceed return is calculated according to Jensen model for each 14 manufacturing sample firms. Then t test is conducted to test this hypothesis which results are shown in Table 3.

The results indicate that in 2005, 2006 and 2007, the return of manufacturing firms is higher than market return but in 2007, 2008 not. However, taking the results of all years, our hypothesis is accepted that means manufacturing firms of TSE obtain exceed return on their investments than market return.

Discussion and Conclusion

The aim of this study was to conduct a comparative investigation of investment and manufacturing company's portfolio with an emphasis on market return in firms listed in Tehran Stock Exchange (TSE). In this study three hypotheses are developed to capture the aim of study. First hypothesis assumes that investment firms of TSE obtain more return on their investments than manufacturing companies. To test this hypothesis t test is conducted to compare performance of investments and manufacturing companies. The results show that investment firms obtain more return than manufacturing companies. This result is reasonable while investment firms are professional in this task than manufacturing companies whose mission is to produce goods not invest in securities. The second hypothesis stipulates that investments firms of TSE obtain exceed return on their investments than market return. The results of this hypothesis indicate that as the expectation investments firms of TSE obtain exceed return on their investments than market return. The third hypothesis posits that manufacturing firms of TSE obtain exceed return on their investments than market return. This hypothesis also accepted showing that manufacturing firms of TSE obtain exceed return on their investments than market return. Considering the whole results of the study, it can be concluded that the performance of investment firms on their investments higher than manufacturing firms and they obtain not only more than market return but also more than manufacturing firms. However, taking the results of the study it can be suggested to potential investors to invest in investment firms stock because they obtain higher return than market.

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