

Return Determinants in a Deteriorating Market Sentiment: Evidence from Jordan

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Received: December 28, 2015

Accepted: January 12, 2015

Online Published: February 2, 2016

doi:10.5539/mas.v10n4p168

URL: <http://dx.doi.org/10.5539/mas.v10n4p168>

Abstract

This paper aimed to examine the relationship between the returns and special characteristics of the industrial firms listed at Amman Stock Exchange; namely risk and size, when market sentiment deteriorates. This study used econometric analysis, utilizing cross-sectional panel data regression. As for the financial data needed for this study, we utilize the information which are distributed six month prior deterioration of market sentiment. Data on the firm-level were derived from the official website of ASE. The sample of firms includes all manufacturing firms listed at ASE through the period 2000-2014. The experimental results of this study have concluded that when market sentiment deteriorates, the risks and returns are associated inversely with returns, this outcome is reliable with the perspective that in times of deteriorating market sentiment, speculators support the “safe” characteristics of firms and move away from the characteristics of firms that are related to speculative activities.

Keywords: return determinants, deteriorating market sentiment, Jordan

1. Introduction

Understanding the concept of expected stock returns have been the primary goal of financial research for a long time. As it is well known, some variables, such as Beta, which works to stimulate the state of balance in the returns, do not have a consistent predictive power. Some studies (e.g. Banz (1981), Basu (1983), and Fama and French (1992), Concluded that some of the company characteristic variables, as size and book-to-market ratio have a superior foreseeing power, especially if it has been integrated together, which means implicitly that predict future stock returns predicting models must include a set of relevant characteristics of the company's variables. Studies in late 1990's have shown that in cases of high investor sentiment, the speculative focus is usually on, young, small, unprofitable, non-dividend-paying growth stocks.

There is a logical explanation for this phenomenon; stocks that have characterized these qualities can be difficult to evaluate, which means they pool strong prospects for Capital increases with absence of a reliable earnings record, permitting investors to reasonably safeguard a broad scope of valuations, idealistic or skeptical. In addition, such stocks are comparatively hard to arbitrage, since the properties that characterize these companies, have been demonstrated exactly and hypothetically to cutoff arbitrage activity.

Plainly, the theoretical and historical experiences have concluded several theories to explain the influence of the sentiment on returns. When investor sentiment is high, the stocks that have the characteristics make it stocks with high risk, such as small caps, growth phase, nonpaying dividend, unprofitable, and young, are expected to have low expected returns comparing other stocks. But in periods of low sentiment, the stocks that have the same characteristics are expected to have relatively high returns.

The accepted clarification for these outcomes is that when sentiment is high, investors are keenest to venture in stock revealing noticeable characteristics of risk. Such stocks therefore gain lower expected returns. And when sentiment turns low, these sorts are generally avoided, and stocks within them earn higher returns.

The rest of the paper is ordered as follows. Section 2 Literature review, Section 3 Data and Methodology Section 4 Econometric Model, Section 5 Empirical results, and Section 6 Conclusion.

2. Related Literature Review

De Long, Shleifer, Summers and Waldman (1990) have suggested that there are two sorts of financial specialists: rational investors who are sentiment free and irrational investors who are likely to exogenous sentiment. The transaction of the irrational investors generates risk, and blocks the arbitrage accomplishments of rational investors. Thus, stock prices can significantly vary from essential values. Furthermore, irrational investors, conveying conflicting measure of danger that they themselves create, procure more prominent expected returns than normal financial specialists.

Brown and Cliff (2005) investigated the predicting power of the sentiment proxies proposed in prior researches, the study utilized vector auto regression (VAR) methods to examine the expected causal relationship between sentiment and returns. They have found that many frequently cited subsidiary measures of sentiment are related to direct measures of investor sentiment. Also, the results show that although changes of sentiment stages are strongly associated with concurrent market returns, the predictive power is comparatively weak. The confirmation obtained does not support the traditional viewpoint that sentiment mainly affects individuals and small caps.

Baker, Wurgler and Yuan (2009) utilized Baker and Wurgler (2006) methodology to a study at the global markets level, they include both of the global and local variables to investigate the effect of sentiment crosswise various countries, their results supported the theory that stocks that are hard to value and arbitrage tend to be significantly affected by the variability of sentiment.

Zouaoui, Nouyrigat and Beer (2011) investigated the impact of sentiment on the possibility of the financial market crisis. The experimental results showed that sentiment increases the likelihood of a financial crisis in the capital market within a year. The results also showed that the influence of sentiment on the stock market was more pronounced in countries which are characterized by the behavior of the herd and overreaction.

3. Data and Methodology

This study used econometric analysis, utilizing cross-sectional panel data regression. As for the financial data needed for this study; we use the data which are published six month before deterioration of market sentiment. Data on the firm-level were derived from the official website of the Amman Stock Exchange (ASE). The sample of firms includes all industrial companies listed at ASE during the period 2000-2014.

3.1 Sentiment Proxy

The proxy we employ for the investors' sentiment is the volatility premium, which can defined as the year end log proportion of the value-weighted average market-to-book ratio of high volatility stocks to that of low volatility stocks.

Periods of the deterioration of market sentiment have been identified when the value of the volatility premium is in the top 20% of their value during the study period. Based on these figures we will study the determinants of return within the deterioration of market sentiment conditions, so that returns data and other market and accounting data will be before the deterioration of market sentiment in six month period. The adoption of the time span of six months is due to the fact that investors in the market need time to understand the company's financial conditions.

3.2 Dependent Variable

The dependent variable in this study is the total stock return (*RETN*). Total stock return can be defined as the ratio between the increase in stock price plus dividends to the original amount invested. The formula for the total stock returns is the increase in the stock price plus dividends paid, divided by the initial price of the stock. The return sources from a stock comes in two forms; dividends and increases in the price. The first portion of the total stock return expresses how much the value has increased ($P_1 - P_0$), while the denominator expresses the original amount invested.

Therefore, total stock return can be calculated through the following equation;

$$RETN_t = \frac{(P_t - P_0) + D_t}{P_0} \quad (1)$$

Where; *RETN* is the total stock return. *t* is the time period which is six month before the deterioration of market sentiment period. *P* is the stock price. *0* is the one period before the *tth* period. *D* is the dividends.

3.3 Independent Variables

Independent variables of this study are the potential determinants of return which will be investigated. These potential determinants include: Beta value (*BETA*), market capitalization value (*SIZE*), book-to-market ratios (*BtM*), Jordanian dinars trading volumes (*TVOL*), debt ratios (*DEBT*), short-term liquidity to total asset ratios (*SLtTA*), cash-flow per share (*CFpS*), and *EBIT^s* to total asset ratios (*EBtTA*).

4. The Econometric Model

Based on previous studies and the variables that the study seeks to test its impact, returns can be considered as follows:

$$Return_{it} = f(\text{specific characteristics of the } i^{th} \text{ firm}_t) \quad (2)$$

Where: *it* are the *ith* cross-sectional company for the *tth* period which is six month before the deterioration of market sentiment period, the equation 2 can be re-formulated as follows:

$$RETN_{it} = \alpha + \beta_1 BETA_t + \beta_2 SIZE_t + \beta_3 BtM_t + \beta_4 TVOL_t + \beta_5 DEBT_t + \beta_6 SLtTA_t + \beta_7 CFpS_t + \beta_8 EBtTA_t + \varepsilon \quad (3)$$

Where; *RETN_{it}* is the total stock return defined as the ratio between the increase in stock price plus dividends to the original amount invested, for the *ith* cross-sectional company on the *tth* period which is six month before the deterioration of market sentiment period; α is a constant; β 's unknown parameters to be estimated; *BETA* is the beta value; *SIZE* is the market capitalization value; *BtM* is the book-to-market ratios, *TVOL* is the Jordanian dinars trading volumes; *DEBT* is the debt ratios; *SLtTA* is the short-term liquidity to total asset ratios; *CFpS* cash-flow per share and *EBtTA* is the ratio of *EBIT^s* to total asset.

5. Empirical Results

Five periods were identified as periods of deterioration of market sentiment, and with 77 industrial companies listed at ASE, the result is 385 firm-year observations. Table 1 shows the statistics of the industrial companies listed on the Amman Stock Exchange stocks' returns during deterioration of market sentiment.

Table 1. Statistics of the industrial companies during deterioration of market sentiment

Mean	4.54961
Min	-7.13212
Max	15.99987
SD	4.36554
Skewness	0.20935
Kurtosis	2.57619

Source: Calculations from SPSS by the authors, 2015.

Table 2 shows the results of multiple regression analysis determinants of the expected return during periods of deterioration of market sentiment.

Table 2. The Results of Regression

	Model 1	Model 2	Model3
<i>Constant</i>	4.258	7.854	6.478
<i>BETA</i>	-6.4232**		-5.2134**
	2.015		2.051
<i>SIZE</i>		-1.882**	-1.58336**
		2.045	1.989
<i>BtM</i>	0.4936*	-1.9801**	-0.95744*
	1.725	2.125	1.745
<i>TVOL</i>	0.0192	0.2508	0.23552

	1.548	1.245	1.127
<i>DEBT</i>	0.0086	-0.04608	-0.0089
	1.124	0.4587	.917
<i>SLtTA</i>	0.02688	0.02048	0.01664
	0.957	1.371	1.058
<i>CFpS</i>	-0.0038***	-0.0012**	-0.00128**
	2.891	2.458	2.014
<i>EBtTA</i>	-0.0076	-0.26112	-0.1049
	0.915	1.487	0.872
<i>Adj. R2</i>	0.15488	0.1728	0.2432
<i>No.</i>	385	385	385

Source: Calculations from SPSS by the authors, 2015.

First line Regression coefficient, second line t-value. *BETA* is the beta value; *SIZE* is the market capitalization value; *BtM* is the book-to-market ratios, *TVOL* is the Jordanian dinars trading volumes; *DEBT* is the debt ratios; *SLtTA* is the short-term liquidity to total asset ratios; *CFpS* cash-flow per share and *EBtTA* is the ratio of *EBIT*^s to total asset. *** denotes the statistical significance at the 1% level, ** denotes the statistical significance at the 5% level, and * denotes the statistical significance at the 10% level, respectively.

The study implements three models of regressions. Model 1, examines the beta effect on the returns during the deterioration of market sentiment, Model 2, investigates the firms' size effect on the returns during the deterioration of market sentiment and Model 3 tests the combined effect of beta and firms' size on the returns during the deterioration of market sentiment.

In model 1, which designed to test the effect of the risk, expressed as beta, on the industrial firms' stock earnings, results show that the effect of the risk on earnings in light of the deterioration of market sentiment is significantly inverse at p-value < 0.05. Model 2 designed to investigate the effect of the firm's size on its return when market sentiment really declined. Results show that there is a statistically significant inverse relationship between the firm's size and its returns when market sentiment is deteriorating at p-value < 0.05.

Model 3, which includes firm's size and risks, shows that the relations between the firm's risks and size and its returns has not changed and remained statistically significant inverse relations at p-value < 0.05.

6. Conclusion

This paper aimed to investigate the relationship between the returns and special characteristics of the industrial firms listed at Amman Stock Exchange namely; risk and size, when market sentiment is really deteriorating. The experimental results of this study concluded that when market sentiment deteriorates, the risks and returns are associated inversely with returns, this result is consistent with the view that in periods of deteriorating market sentiment, investors favor the "safe" characteristics of firms and move away from the characteristics of firms that are related to speculative activities.

Acknowledgements

The author is grateful to the Applied Science Private University, Amman, Jordan, for the financial support granted to this research project (Grant No. DRGS-2015-2016- 25).

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