

The MacrotHEME Review

A multidisciplinary journal of global macro trends

The Diversification Style of Investment Funds

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Abstract

The study investigates the diversification style of First Trust Fund based on the analysis of its investment style. It uses the fund's monthly returns from July 2000 to December 2009. The study uses Fama & French (1993) 3-factors model that focuses on three benchmarks; market index, size, and book-to-market. The results reveal that First Trust Fund relies, as investment style, principally on the market portfolio by following the market index returns. To diversify its portfolio, the fund selects small stocks, and low book-to-market stocks, respectively.

Keywords: *investment fund, 3-factors model, investment style, market return, size, book-to-market ratio.*

1. INTRODUCTION

The last decades have witnessed tremendous growth of the investment funds industry regarding to their basic investment roles in pooling money from different investors and invest them in financial securities. The explosion of assets under management by investment funds has intensified the focus on their investment strategies. The fund managers state the fund's investment strategies by following certain investment styles systematically to diversify the fund's portfolios. These styles help managers to select rewarded securities that deliver a positive risk-adjusted fund's performance. Carhart (1997) revealed that high ranked funds tend to hold more small stocks than low ranked funds. Chan, Chen & Lakomishoks (2002) cited that most of the investment funds adopt styles that bunch around an overall market index. In aggregate, funds tend to invest in small stocks, stocks with low book-to-market (growth). In addition, Chan et al, (2002) have indicated that managers who hold growth stocks do better than the managers that hold value stocks on style-adjusted basis. Contrary, Zhangpeng, & Rahman (2005) found that Chinese funds strongly invest in large-cap stocks and slightly prefer growth (low B/M ratio) stocks. On the other hand Stotz (2007) indicated that Germany's funds invest in small stocks and stocks with low book-to-market ratio as investment style. In addition, he has indicated that the investment styles of a fund influence the performance results, where funds' managers who primarily invest in small-cap growth stocks are able to achieve a positive risk-adjusted performance. Generally, most studies focused on size and book-to-market ratio as fund's equity investment styles.

The investment funds industry in Arab market received less attention in terms of academic studies. Therefore, this study is comprehensive empirical case study that investigates the investment style of First Trust Fund, which is a Jordanian investment fund. The study helps investors to rationalize their investment decision before pouring their money in these funds through the analysis of the fund style of diversification.

2. INVESTMENT STYLES ANALYSIS

Investment style is any set of characteristics that comprises a large part of an investment discipline. Investors can devise disparate investment styles using a multitude of stocks characteristics in many different ways (Hu, 2005). Style analysis is a powerful technique that was developed by Sharpe (1992) for determining the exposure of a fund's portfolio to various assets classes that are included in the portfolio. The style analysis helps analyst to obtain a clear idea of the fund portfolio components.

Regarding a strong relationship between investment styles and fund performance, the fund's portfolio should be compared to appropriate benchmark portfolios that reflect the fund's investment styles to enable the analyst to distinguish between fund's manager skills from investment styles. This is especially when a fund manager has no control over style selection.

Chan, et al (2002) cited that, rather than analyzing individual portfolio holdings, the style analysis allows analyzing the fund's return by looking how the fund's historical returns are related to various benchmarks styles because if a fund's manager follows a certain style the fund's return should track its style-specific benchmark.

For example, a fund's managers who invested primarily in small-cap stocks and growth stocks would be said that they follow a small-cap growth investment style. Large-cap value style is the style of managers that invest in large-cap and value stocks. Generally, the studies consider that the factors: market portfolio, size, and book-to-market are appropriate benchmarks to analyze the investment styles of the investment funds. Fama & French (1993) used firm's stock characteristics such as size and book-to-market ratio in addition to the market index to explain the cross-section of stock returns. They conducted several tests and concluded that the three-factor risk-return model as in the equation (1) captures the cross-sectional variation in average stock returns better than the market index.

$$EFR_t = \alpha + \beta_{EMR} * EMR_t + \beta_{SMB} * SMB_t + \beta_{HML} * HML_t + e_t \quad (1)$$

Where:

EFR: Fund's excess return

EMR: Market's excess return

SMB: Small Minus Big is the portfolio's return of stocks of small firms in excess of the portfolio's return of stocks of big firms

HML: High Minus Low is the portfolio's return of stocks with high book-to market ratio in excess of portfolio's return of stocks with low book-to market ratio.

β_{EMR} : beta market's coefficient.

β_{SMB} : beta size's coefficient.

β_{HML} : beta book-to-market ratio's coefficient.

Hu (2005) found that these factors (market, size, and book- to –market) explain strongly the cross-sectional stocks return in international context and in different periods. While *Stotz (2007)* mentioned, that these benchmarks have two advantages:

- 1) The model overcomes the problem of benchmarks bias because the power to explain the fund's return is higher than Capital Asset Pricing Model.
- 2) The model permits to identify the investments styles of the fund's manager. Positive significant β_{SMB} , β_{HML} indicate that the manager follows small, value stocks styles. While negative significant β_{SMB} , β_{HML} indicate that manager pursues large, growth stocks styles.

3. EVOLUTION OF INVESTMENT FUNDS IN JORDAN

With roots dating back to the 1930s, the Jordanian stock market is one of the oldest stock exchanges in the region. In 1978, Amman Financial Market (AFM) was established, making the first organized and official Jordanian stock exchange. In 1999, a series of reforms adopted by the government that aimed at amplifying the role of the private sector in the Jordanian economy gave birth to three institutions that collectively form Jordan's capital market; Amman Stock Exchange (ASE), Securities Depository Center (SDC), and Jordan Securities Commission (JSC).

Bolstered by a strong and liberal regulatory framework, the 1999 reforms, for the first time, brought the laws and instructions related to investment companies. In 2003, some amendments were included to restrict and organize investment funds activities. In 2000, the first Jordanian investment fund was established. In 2009, the Jordanian funds have reached five funds, which reveals that investment funds in Jordan are still in the infancy stage.

ASE realized enticing performance comparing to markets of the region. During the period of 2003-2006, the average growth of ASE general index was estimated at 42% exceeding the markets of regions of Middle East and North Africa that realized average growth with 36% and 37%, respectively. In 2007, ASE realized 36.3% of average growth while the average growth of Arabian markets reached 38.3%.

There are encouraging indicators that make investors optimistic about future financial investment in the Jordanian market. The number of listed companies jumped from 163 in 2000 to 262 in 2008 and the market capitalization has moved from 3509.64 JD million in 2000 to 25,406.3 JD million in 2008. The general index grew by 261% during 2001-2008. It was at 1727.0 point in 2001 and reached 6243.1 point in 2008 (ASE, 2009).

4. VARIABLES AND HYPOTHESIS DEVELOPMENT

Based on the study model, the researchers provide a definition for the study variables and develop the study hypothesis:

- 1- **Excess Fund's Return (EFR):** is the excess fund's return from the risk-free rate of return. The fund's return is calculated as the rate of return between the actual and previous fund's Net Asset Value (NAV). NAV changes according to the change of the securities' income and the average price (capital gain) of the securities that are included in the fund's portfolio.

2- Excess Market's Return (EMR): is the excess market's return from the risk-free rate of return. The market portfolio is usually approximated by a value weighted general market index. The market's return is calculated as the rate of return between the actual and previous closed price of the market index. The previous studies revealed that the market's returns have statistically significant effect on the fund's returns because the market portfolio's stocks considerably compose the fund's portfolio. *Low (2007)* and *Stotz (2007)* found that the market's returns have a positive effect on the funds' returns. Thus, the researchers propose the following null hypothesis: ***H₀₁***: *The market excess returns have no significant effect on the fund excess returns; $\beta_{EMR} = 0$.*

3- Size (SMB): Small Minus Big is a proxy to mimic the risk factor of stocks returns that relates to the firm size. The size is measured by market capitalization. SMB has been formulated as *Fama & French (1993)* methodology, which is the return difference each month between the portfolio's returns of stocks of small firms and portfolio's returns of stocks of big firms. *Fama & French (1993)* found that SMB has a positive effect on the portfolio return. The same result was found by *Chan et al (2002)*, which mean that fund's managers prefer stocks of small firms over the stocks of big firms. Based on these arguments, the researchers propose the following null hypothesis: ***H₀₂***: *The returns related to size have no significant effect on the fund excess returns; $\beta_{SMB} = 0$.*

4- Book-to-Market ratio (HML): High Minus Low is a proxy to mimic the risk factor of stocks returns related to book-to-market ratio (value/growth stocks). HML was formulated as *Fama & French (1993)* methodology, which is the return difference each month between the portfolio's returns of stocks with high book-to-market (value stocks) and portfolio's returns of stocks with low book-to-market (growth stocks).

While in Amman Stock Exchange *Saleh & Bitar (2009)* affirmed that size and book-to-market effects explain most of the variation in stocks returns, where the CAPM fails to give powerful explanation. Other studies such as *Chan et al (2002)*, *Zhangpeng, & Rahman (2005)*, and *Stotz (2007)* found that the book-to-market factor has a negative effect on the funds' returns, which implies that the funds' managers prefer the stocks with low book-to-market (growth stocks). This is why the researchers hypothesize the following null hypothesis: ***H₀₃***: *The returns related to book-to-market ratio have no significant effect on the fund excess returns: $\beta_{HML}=0$.*

5. DATA AND METHODOLOGY

The study investigates the investment styles of First Trust Fund (FTF) from July 2000 to December 2009. The information on investment funds in Jordan is very limited because this industry is not yet developed. The researchers have used different sources to provide general view about this funds as table (1) reveals. The study uses the fund monthly NAVs that are collected from the fund' reports to estimate the percentage monthly funds' returns.

The study uses the Value Weighted General Index (VWGI) of Amman Stock Exchange (ASE) as proxy for market portfolio, whereby the monthly closing prices of VWGI are used to calculate the monthly returns of the market portfolio. The monthly returns of 3-months treasury bills are used as risk-free rate return to calculate the excess funds returns and the excess market returns. To formulate the SMB, and HML, the study uses the monthly closing price of stocks of companies that formulate VWGI of ASE. The SMB and HML are constructed according to *Fama & French (1993)* methodology.

Table (1): First Trust Fund profile

Administrator	Description	Objective	Inception date	Minimum Investment	Total Assets in 2005
Arab Banking Corporation/ Jordan	Open-end balanced fund invests in a balanced portfolio of listed equities, corporate fixed Income securities, and money market instruments.	Achieve medium to long-term capital appreciation in NAV.	June 2000	JD 1000	9,983,538 JD

Source: collected by the researchers from the fund’s reports.

6. EMPIRICAL RESULTS

6.1 Descriptive statistics

Descriptive statistics of the variables during the study period are presented in the table (2):

Table (2): Descriptive statistics of variables

	<i>EFR</i>	<i>EMR</i>	<i>SMB</i>	<i>HML</i>
Mean	0.0041	0.0087	-0.0171	-0.0465
Median	0.0033	0.0010	-0.0134	-0.0401
Maximum	0.0746	0.2326	0.2650	0.0985
Minimum	-0.0639	-0.2185	-0.2314	-0.4349
Std. Dev	0.0235	0.0707	0.0835	0.0728

EFR is the excess fund returns. **EMR** is the excess market’s returns of VWI general index. **SMB** and **HML** are factors that mimic the portfolios of size, book-to-market, respectively.

FTF exhibit a positive average excess return (EFR) 0.41%. However, it is less than EMR average return 0.87%, which affirms that the market outperforms the fund on the raw return basis. Consequently, EFR risk 0.023 (standard deviation) is less than the EMR risk 0.070. Generally, these features are common characteristics in the emerging markets.

6.2 The investment styles results

The results of investment style of FTF are reported in table (3).

Table (3): Fund’s investment style

<i>R-squared</i> : 0.594		<i>F-statistic</i> : 53.77		<i>DW</i> : 1.690
<i>Adj R-squared</i> : 0.583		<i>Probability</i> : 0.000***		N. Obs: 114
<i>Variable</i>	<i>Coefficient</i>	<i>Std-Error</i>	<i>T-Statistic</i>	<i>Probability</i>
α	-0.0004	0.0016	-0.2529	0.800
<i>EMR</i>	0.2877	0.0242	11.887	0.000 ***
<i>SMB</i>	0.0696	0.0224	3.1031	0.002***
<i>HML</i>	-0.0608	0.0233	-2.6015	0.010***

*** Significant at 1% level.

The adjusted R² is 0.58, which means that 58% of variation in EFR is accounted by EMR, SMB, and HML. While F-statistic reveals that, the estimated regression is statistically significant at 1% level. The results reveal that market return has a positive effect on the fund returns that is statistically significant at 1% level, which indicates that the fund managers follow the movements of the market and remain close to the market index to reduce the investment risks. SMB has a positive effect on the fund returns that is statistically significant at 1% level, which indicates that fund prefers to hold small stocks in their portfolios. Therefore, *Eser (2007)* found that the highest ranked funds on average hold smaller stocks. HML has a positive effect that is statistically significant at 1% level; it proves that fund tilts to invest in growth stocks. *Saleh & Bitar (2009)* have proved that growth stocks outperform the value stocks in Jordanian market.

Generally, the First Trust Fund managers follow the market index with a coefficient (β_{EMR}) equals to 0.28. Secondly, when they deviate from the market index they favor the small stocks in the second place with a coefficient (β_{SMB}) equals to 0.07. Lastly, the fund selects growth stocks with a coefficient (β_{HML}) equals to 0.06. This strategy consists with the investment conventional wisdoms that investment funds pick smaller stocks with lower book-to-market ratios.

7. CONCLUSION

It is clear that First Trust Fund has a conservative investment strategy. It tracks the market index as the primary investment style. This strategy is explained by the infancy of this industry in Jordan, where the funds’ managers do not bear high risks and ensure rewarding returns to attract risk aversion investors. Furthermore, the fund adopts other stocks’ characteristics to diversify the fund’s portfolio and realize abnormal returns by selecting small and growth stocks.

The fund managers prefer small stocks because are less informationally efficient and are not widely followed by investors, making these stocks less efficiently priced in the market.

Therefore, the fund managers exploit these opportunities by investing in these stocks to realize abnormal returns. The priority of growth stocks is explained by low liquidity risk and earning stability associated with this kind of stocks. The ranking of the investment styles of investment funds is subjected to many considerations. One of them is the opportunities that provide each style to realize abnormal returns and the implementation cost of each style. The study recommends that the fund managers should reassess the investment styles and maintain comfortable liquidity to adopt the rewarding investment styles in the right time to diversify the fund portfolios and improve their returns.

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