Journal of
Social and Administrative Sciences
www.kspjournals.org
Volume 1 December 2014 Issue 1

A Comparion of the Performances of Type A Mutual Funds Before and After 2008 Global Economic Crisis in Turkey [*]

By Eşref Savaş BAŞÇI [a †] & Fatih MEMİŞ [b]

Abstract. Looking from a historical perspective, financial activities contain many crises in itself. This situation seems to be a feature inherent in the existing economic system and as long as this system continues, it becomes inevitable being faced with the crisis. Especially in recent years, with the increasing globalization, the risk of being faced with a crisis has also increased. In the financial markets, savers who wish to evaluate the accumulation by investing in different investment tools may encounter some difficulties in the face of a variety of financial products and in times of crisis. Mutual funds consist of investment tools which have increasing importance in the capital market and give professional management services to savers in accordance with certain principles. Especially in recent years, mutual funds market is rapidly evolving in Turkey, as well as in the international market. Due to these developments, consideration of growing number of investors and growing portfolios of mutual funds emerges as a necessity. The purpose of this study is to compare the performances of type A mutual funds in Turkey for the period before and after the 2008 crisis. The pre-crisis period have been determined as 2005-2007 and the post-crisis period as 2009-2011. Within the scope of application, there are 74 mutual funds of type A, which continuously operated between January 2005 - December 2007 and January 2009 - December 2011, not joined with another fund, not taken over by another fund, not being in liquidation and having complete data. These mutual funds were analyzed by using performance measurement methods.
Keywords. Crisis, 2008 Economic Crisis in Turkey, Mutual Funds, Performance Measurement Methods.
JEL. L25, G2, G17, H12.

1. Introduction

Looking from a historical perspective, financial activities contain many crises in itself. This situation seems to be a feature inherent in the existing economic system and as long as this system continues, it becomes inevitable being faced with the crisis (Arslan & Arslan, 2010). Especially in recent years, with the increasing globalization, the risk of being faced with a crisis has also increased. In the financial markets, savers who wish to evaluate the accumulation by investing in different investment tools may encounter some difficulties in the face of a variety of financial products and in times of crisis. (Petajisto, 2013).

[*] This paper has been presented on ICESBA, International Conference on Economics Sciences and Business Administration Behalf of Spiru Haret University at Romaia, 24-25 Oct. 2014. Bucharest.

[a] † Hitit University, Faculty of Economics and Administrative Science, Banking and Finance Department, Çorum, Turkey. ☎. +90364 225 77 00/1410. ✉. esavasbasci@hitit.edu.tr
[b] Hitit University, Social Sciences Institute, Çorum, Turkey. ✉. Fatihmemis19@hotmail.com

Mutual funds consist of investment tools which have increasing importance in the capital market and give professional management services to savers in accordance with certain principles (Karan, 2004). Especially in recent years, mutual funds market is rapidly evolving in Turkey, as well as in the international market. Due to these developments, consideration of growing number of investors and growing portfolios of mutual funds emerges as a necessity (Yılmaz, 2009)

2. Data and Methodology

In this study, we examined to calculate performance of type A mutual Funds in Turkey between 2005 and 2011. These Mutual Funds are totally 84 funds in that period. Within the scope of application, there are 74 mutual funds of type A, which continuously operated between January 2005 - December 2007 and January 2009 - December 2011, not joined with another fund, not taken over by another fund, not being in liquidation and having complete data. These mutual funds were analyzed by using performance measurement methods.

We split 2 period according to crisis. It has taken into account 2008 year for crisis year in Turkey. Therefore we used one part of time series as a before crisis period from 2005 to 2007. We break out to 2008 year against any change during the crisis period. After that, we used the second part of time series as an after crisis period from 2009 to 2011 (TSPAKB).

However, we calculated monthly return, Sharpe Ratio, Treynor Ratio and Jensen Alpha for mutual funds during to all time series. We assume that is there any changes before and after crisis due to performance criteria. First calculation of return has applied to mutual funds as below formula:

$$R_p = \frac{V_t - V_{t-1}}{V_{t-1}} \quad (1)$$

R_p: Return of mutual fund
V_t: Return in end of period
V_{t-1}: Return in beginning of period

Sharpe Ratio is the first measurement ratio that it can be calculated as below in this study (Sharpe, 1996).

$$S_p = \frac{r_p - r_f}{\sigma_p} \quad (2)$$

S_p: Sharpe performance ratio
r_p: Mutual fund's return in period
r_f: Risk free rate in period
σ_p:Standart Deviation of mutual funds returns in period

Treynor Index can be calculated as below (Treynor, 1965):

$$\text{Treynor Index} = \frac{(r_a - r_f)}{\beta_a} \quad (3)$$

r_a: Return of mutual funds in this period
r_f: Risk free rate in this period
β_a: Beta coefficient of the mutual fund

Jensen's Alfa can be calculated as below also (Jensen, 1968).

$$\alpha_i = R_i - (R_f + \beta_i(R_p - R_f)) \quad (4)$$

α_i: Jensen's Alpha of mutual fund
R_i: return of mutual fund in this period
R_f: Risk free rate in this period
β_i: Beta coefficient of mutual fund
R_p: Expected market return in this period

3. Research Findings

We analysed each parameters to calculate performance during period before and after crisis. It has shown below results of descriptive statistics and results of paired sample t tests.

TABLE 1. *Descriptive Statistics for Mean Before and After Crisis Period*

Mean_1 and Mean_2	Min.	Maximum	Mean	Std.Dev.
Before Crisis[a]	-3,257500	5,199167	1,172639	1,188016
After Crisis[b]	-3,946667	9,802500	1,327267	2,559488

[a] Years between from 2005 to 2007
[b] Years between from 2009 to 2011

TABLE 2. *Results of Paired Sample t Test for Mean*

	Mean	Std. Dev.	Std. Err.	t	Prob.
Mean_1 – Mean_2	-,154	2,634	,176	-,875	,383

*Mean_1: Before Crisis (2005-2007)
*Mean_2: After Crisis (2009-2011)

Table 2 shows comparing means for each period above. According to result of paired sample t Test Mean is shown that there are not statistically differences between two periods. In the other word, means of mutual funds are the same in before and after crisis.

TABLE 3. *Descriptive Statistics for Sharpe Ratio Before and After Crisis Period*

Sharpe_1 and Sharpe_2	Min.	Max.	Mean	Std. Dev.
Before Crisis[a]	-119,941747	-1,213160	-5,751805	13,719238
After Crisis[b]	-58,702956	-0,383010	-2,872903	6,138513

[a] Years between from 2005 to 2007
[b] Years between from 2009 to 2011

TABLE 4. *Results of Paired Sample t Test for Sharpe Ratio*

	Mean	Std. Dev.	Std. Err.	t	Prob.
Sharpe_1 – Sharpe_2	-2,878	8,007	,537	-5,357	,000

* Sharpe_1: Before Crisis (2005-2007)
* Sharpe_2: After Crisis (2009-2011)

Table 4 shows comparing Sharpe Ratios for each period above. According to result of paired sample t Test for Sharpe Ratio is shown that there are statistically differences between two periods at 1% level (p<0.000). In the other word, Sharpe Ratios of mutual funds are difference in before and after crisis.

TABLE 5. *Descriptive Statistics for Treynor Index Before and After Crisis Period*

Treynor_1 and Treynor_2	Min.	Max.	Mean	Std. Dev.
Before Crisis[a]	-663,685497	2545,912522	-31,068429	221,962274
After Crisis[b]	-385,931878	6410,082660	39,497474	542,898624

[a] Years between from 2005 to 2007
[b] Years between from 2009 to 2011

TABLE 6. *Results of Paired Sample t Test for Treynor Index*

	Mean	Std. Dev.	Std. Err.	t	Prob.
Treynor_1 – Treynor _2	-70,565	599,667	40,247	-1,753	,081

* Treynor _1: Before Crisis (2005-2007)
* Treynor _2: After Crisis (2009-2011)

Table 6 shows comparing Treynor Index for each period above. According to result of paired sample t Test for Treynor Index is shown that there are statistically differences between two periods at 10% level (p<0.10). In the other word, Sharpe Ratios of mutual funds are difference in before and after crisis.

TABLE 7. *Descriptive Statistics for Jensen's Alpha Before and After Crisis Period*

Jensen_1 and Jensen_2	Min.	Max.	Mean	Std. Dev.
Before Crisis[a]	-18,289629	12,085477	-3,469304	5,902632
After Crisis[b]	-12,206041	15,783187	-0,725283	4,409264

[a] Years between from 2005 to 2007
[b] Years between from 2009 to 2011

TABLE 8. *Results of Paired Sample t Test for Jensen's Alpha*

	Mean	Std. Dev.	Std. Err.	t	Prob.
Jensen _1 - Jensen _2	-2,744	3,231	,216	-12,653	,000

* Jensen _1: Before Crisis (2005-2007)
* Jensen _2: After Crisis (2009-2011)

Table 8 shows comparing Jensen's Alpha for each period above. According to result of paired sample t Test for Jensen's Alpha is shown that there are statistically differences between two periods at 1% level (p<0.000). In the other word, Sharpe Ratios of mutual funds are difference in before and after crisis.

TABLE 9. *Summarize of Paired Sample t Test Results*

	Mean	Std. Dev.	Std. Err.	t	Prob.
Mean_1 – Mean_2	-,154	2,634	,176	-,875	,383
Sharpe_1 – Sharpe_2	-2,878	8,007	,537	-5,357	,000***
Treynor_1 – Treynor _2	-70,565	599,66	40,24	-1,753	,081*
Jensen_1 – Jensen_2	-2,744	3,231	,216	-12,65	,000***

*, ** and *** denote significantly difference from zero at 10%, 5% and 1% level, respectively

Table 9 shows comparing each of calculated and analysed performance criteria. According to these results 3 of performance measurements has statistically differences between two period at difference level, although there are not statistically differences in Means between two periods.

4. Results and Discussion

The purpose of this study is to compare the performances of type A mutual funds in Turkey for the period before and after the 2008 crisis. The pre-crisis period have been determined as 2005-2007 and the post-crisis period as 2009-2011. Within the scope of application, there are 74 mutual funds of type A, which continuously operated between January 2005 - December 2007 and January 2009 - December 2011, not joined with another fund, not taken over by another fund, not being in liquidation and having complete data. These mutual funds were analyzed by using performance measurement methods like as Sharpe Ratio, Treynor Index, Jensen's Alpha.

According to these results shows that means is not enough to compare two periods as a statistically aspects. These means each of performance measurements are very important to understand a mutual fund goes on. As we see in this research, just focused on means for evaluating performance between two periods is limited to understand how mutual funds must be evaluated between periods. Our aims of this study is to analyse well-known performance measurement methods for portfolio as like Sharpe Ratio, Treynor Index, Jensen's Alpha. In accordance with these results shows that all of performance has statistically differences between before and after crisis period at accepted different level, even though means has not statistically differences at that periods.

References

Arslan, M., & Arslan, S. (2010). Cooparative Analysis of A, B Type and Exchange Traded Funds Performance With Mutual Funds Performance Measures, Regression Analysis And Manova Technique. *İşletme Araştırmaları Dergisi*, 2(2), 3-20.

Jensen, M. (1968). The Performance of Mutual Funds in the Period 1945-1964. *Journal of Finance*, 23(2), 389-416.

Karan, M. B. (2004). *Yatırım Analizi ve Portföy Yönetimi.* Ankara: Gazi Kitapevi.

Korkmaz, T., & Ceylan, A. (2012). *Sermaye Piyasası ve Menkul Değer Analizi.* Bursa: Ekin Yayınevi.

Petajisto, A. (2013). Active Share and Mutual Fund Performance. *Financial Analysts Journal*, 69(4), 73-93.

Sharpe, W. (1996). Mutual Fund Performance. *The Journal of Business*, 39(1), 119-138.

Treynor, J. L. (1965). How to Rate Management of Inverstment Funds. *Harward Business Review*, 43, 63-75.

TSPAKB. (n.d.). *Türkiye Sermaye Piyasası 2012.* Retrieved from http://www.tspakb.org.tr/tr/Portals/0/AIM_Yillik/TSP2012.pdf

Tural, A. O. (2011). *Türkiye'deki A ve B Tipi Yatırım Fonlarının 2004-2010 Yılları Arasındaki Performans Değerlendirilmesi.* Ankara: Atılım Üniversitesi Sosyal Bilimler Enstitüsü Yüksek Lisans Tezi.

Yılmaz, D. (2009). *Küresel Kriz ve Para Politikası Uygulamaları.* Retrieved from http://www.tcmb.gov.tr/yeni/duyuru/2009/Baskan_Bogazici.php