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OPEN-ENDED FUNDS IN ROMANIA. THEIR PERFORMANCE IN AN ECONOMICALLY DIFFICULT ENVIRONMENT

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ABSTRACT. Romania is one of the emerging markets, where the investment funds market is less developed than in other European countries, but developing fast. The number of open-ended funds increased in the 20 years of existence of the investment market, reaching 60 in 2012. The paper looks at the open-ended funds' evolution (measured through the yearly changes in value of the fund unit), in the period 2010-2012. The main objective is to analyze the performance of the different types of mutual funds in a comparative manner and to assess them against the industry benchmark. The analysis takes place in a period of economic turmoil and based on the findings, the paper attempts to point out advices on what would be good placements for investors during economically difficult periods.

JEL Classification:G23, G11, D53, E22

Keywords: open ended funds, Romania, investment funds' performance

Introduction

Investment funds represent an alternative investment opportunity to bank deposits or to direct investments on the Stock Exchange. They contribute to the development of financial markets, as new possibilities of investment for those who have available resources. Among those, open ended funds are seen as a primary instrument of investment for most individuals and households (Lenard *et al.*, 2003). In the last decades, the role of mutual funds increased in the financial markets, as in 2007 the world mutual funds industry administered financial assets of 26 trillion USD compared to 1996 when there were administered 6 trillion USD assets (Ferreira *et al.*, 2010).

The investment funds industry in Romania is a young industry, as it has only 20 years of existence. Its youth places it as an underdeveloped market, by comparison to the U.K, Germany and France from Europe or United States from America. The industry had an initial difficult start at the beginning of 1990's, when due to the lack of regulating rules, investors lost a lot of money and registered high failures on the investment funds market. Once the market started to be better regulated, allowing for higher control and less risk of failure for investors (due to un-appropriate calculation methods), it also started to develop.

The main objective of this paper is to compare the evolution of different types of open ended funds of Romania and their performances in the last years in order to identify which

categories of funds performed better in the context of the present economic crisis. The evolution is measured through the funds' yearly changes in value of the fund unit.

Investment funds and their performance – a literature review

Investment funds are organizations that gather funds from individuals and invest these funds in securities traded on the stock exchange, in money market instruments and in municipal or corporate bonds. They represent an alternative investment option to deposits in commercial banks and to direct investments on the Stock Exchange (Prisăcariu *et al.*, 2008; Bodie *et al.*, 2009). Investment funds are classified according to different criteria: method of management, goals, the composition of the fund's portfolio, markets and investment strategy. The method of management is seen as the most important criterion to classify investment funds and according to it, there are three types of investment funds: a) unit investment trusts, b) open-ended funds and c) closed-end funds. The unit investment trusts administer a fixed portfolio that is seen as being "unmanaged" (Bodie *et al.*, 2009), as compared to the other two types of investment funds (open- ended and closed-ended funds) that hold portfolios that are continuously bought and sold, therefore being "managed". The open-ended funds issue permanently investment assets, allowing some investors to subscribe permanently and simultaneously allowing others to totally drop out. On the other hand, the closed-ended funds do not issue permanently and they address only to a limited number of investors, who purchase the shares when the fund is launched and redeem them when the fund closes.

One of the main purposes of investment funds is to obtain and distribute profits to their investors and related to this, one important influencing factor is the *type of management* used to administer the fund: active management or passive management. Active management of portfolios tries to maximize the returns over a given benchmark and tries to ensure a better performance than the market's. In other words, the active investment management means to develop strategies that take advantage of the market inefficiencies (Bodie *et al.*, 2009), trying to outperform the market. Active portfolio management has known increases lately. Passive management consists of a buy and hold strategy, through which the company establishes portfolios that track a chosen benchmark and follow its evolution (Zhao, 2007). Equity funds, bond funds or mixed funds (bonds + stocks) can be used as chosen benchmarks with which the comparison is done. Active management strategies are used by managers who are risk takers, while passive management strategies are used by managers who want to minimize risks. Portfolios that are actively managed are more expensive for investors than the passive ones are, as managers use more effort to monitor and revise the portfolios according to the evolution of the market, in order to obtain higher returns than the benchmark. There are authors, among which Shukla (2004) who consider that investors do not gain extra benefits from active management, as the transaction charges of those who manage the funds are very high due to very often changes of the portfolio and this does not always bring extra gain. Gruber (1996) for instance, considers that active management of investment funds is advantageous for those who use clear strategies and especially for sophisticated investors who usually eliminate from their portfolios bad performing funds in time, so that no losses occur. Active management is used especially in the more developed investment markets, as illustrated by the fact that in the US and in the UK, around 70% of the institutional funds are actively managed (Cuthbertson, Nitzshe and O'Sullivan, 2012).

Another important aspect related to investment funds and the profit associated to them, is the *investment horizon*, the length of time for which a portfolio is hold. The literature acknowledges that if the time horizon increases, the expected returns increase, but at the same time the investment risks increase too (Tang and Lee, 1997). The same authors discuss the idea that the benefits of diversification will decrease if the correlation coefficients between markets increase over time. They analysed three Asian markets to determine the performance

of different portfolios over time and they drew a few conclusions among which: a) portfolio performance can be improved through the increase of the time the portfolio is hold; b) the longer the time horizon of a portfolio the greater the percentage of defensive (safer) securities and the lower the percentage of aggressive (riskier) securities. On the contrary, Klos *et al.* (2005) found that the amount of money invested in riskier securities increased for longer periods of time of the portfolio. At the same time, Dierkes *et al.* (2010) illustrate that the time horizon influences the investment strategy in the following way: a) for long term horizons stocks usually outperform; b) for short term horizons bonds are seen to be the best option and c) for medium term horizons a mix securities strategy is recommended.

Other authors (Gollier and Zeckhauser, 2002) tried to look at the correlation between the age of the private investors and the investment horizon and concluded that risk taking depends rather on wealth and economic environment than the age of the private investor.

The performance of the investment funds is evaluated through the *performance analysis* as the last step in the portfolio management process. The purpose of the performance analysis is to evaluate the general success of the investment management strategies, so that to meet the expectations of the investors (Amenc and Le Sourd, 2003). One of the popular financial metrics used to evaluate financial performance is the Return on investment (ROI). The simple ROI is a central financial metric that can also be used for investment decisions such as stock portfolio management and the use of venture capital. The ROI analysis compares investment returns and costs and constructs a ratio expressed as a percentage. A high ROI represents that the investment gains are higher than the investment costs. In case of portfolio investment this is called return on portfolio and is calculated as a ratio between the difference of the ending value of the portfolio and the beginning value of the portfolio and the beginning value of the portfolio (Levistauskaite, 2010).

Traditionally, performance was defined through two elements (Jensen, 1968): a) the capacity of the manager to increase returns on the fund's portfolio and b) the ability of the manager to diminish the risk of the investor via diversification techniques. Later on, Reilly and Brown (2003) presented four measures for performance: a) the reward to variability ration (developed by Treynor that applies to all investors without taking into consideration their risk preferences; b) ratio that assesses the reward to volatility trade-off and diversification (Sharpe, 1991); c) measure that calculates risk premiums (in terms of systematic risk) without considering the manager's capacity to diversify (Jensen, 1968) and d) the information ratio (the appraisal ratio) that measures the abnormal returns per unit of risk that could be diversified through a passive portfolio holding. The Treynor ratio, the Sharpe ration and the Jensen's alpha are seen as traditional and conventional measures for the evaluation of the equity funds' performance (Soongswang and Sanohdontree, 2011). Among those, Sharpe ratio is considered to be the first measure that combined risks with returns, the preferable way of measuring performance. Many authors took the Sharpe ratio as a starting point and developed adapted performance analyzing models (Levy, 1972; In *et al.*, 2008). Recently, there were opinions (Zhao and Wang, 2007) that brought into discussion the fact that the traditional approaches of measuring investment funds' performance of Sharpe, Treynor and Jensen that take into account only the return and the risk of investment are not sufficiently accurate given the fact that the results depend on the selection of the benchmark and that subscription and redemption costs required in the investment are not considered. It was proposed the use of the Data Envelopment Analysis (DEA) Model as another method to measure performance. The model has it origins in the work of Charnes *et al.* (1978) and has been further developed by others. This model starts from the assumption of constant returns to scale and it has as advantage the non-requirement to use a benchmark, as well as the possibility to identify the causes of inefficiency. The model takes also in consideration the cost, together with the returns and the risks (Zhao and Wang, 2007) and it was used to

evaluate performance of mutual funds in a number of studies (Murthi, Choi and Desai, 1997; Morey and Morey, 1999; Basso and Funari, 2003; Sengupta, 2003).

As part of the literature review, there were identified an appreciable number of studies that have been conducted in different countries, with the purpose to evaluate the performance of mutual funds.

Most of them focused on the US mutual fund industry, as one of the most developed in the world. Among those are the ones conducted by Grinblatt and Titman (1994) and Kothari and Warner (2001), for instance. There were few authors who looked at fund performances in other developed countries: the UK (Blake and Timmermann, 1998), Australia (Bird, Chin and McCrae, 1983), Italy (Casarin, Pelizzon and Piva, 2008) and others. About emerging countries and their mutual funds, in spite of the fact that they have attracted investors from all over the world, there have been less studies on the mutual funds' performance. Examples of such studies are Noulas, Papanastasiou and Lazaridis (2005) in Greece, Agrawal (2007) in India and Soongswang and Sanohdontree (2011) in Thailand. For the Romanian mutual funds market, there were found just few studies that looked at the performance of the investment funds (Filip, 2008; Zăpodeanu and Cociuba, 2009).

The present study tries to evaluate the performance of different types of Romanian mutual funds during times with economic difficulties, namely in the period of economic crisis and post economic crisis: 2010-2012. Romania was also affected by the world economic crisis that emerged in 2007 with the crisis in the financial system. Given the trading relationships that Romania had with other European countries, some of which being seriously shaken up by the crisis (Greece, Italy, Spain, Portugal and Ireland), the economic crisis also propagated to Romania (INS, 2012), even though with a one year time lag. The contraction of the real GDP in Romania started in 2009 when it was of 6.6% (as compared to 2008 when there was a positive growth of 7.3% of the real GDP) and continued in 2010 with a 1.6% decrease (INS, 2012). The increase in inflation was felt immediately in Romania as this increased with 3% in 2008, reaching 7.8% and maintained appreciable levels up to 2011 when it was 5.8% (IMF, 2012). The evolution of the economy was felt in the evolution of the capital market at Bucharest Stock Exchange, that in 2011 registered a decrease. The Romanian capital market was also correlated with other capital markets in the region, that in 2011 registered decreases also (Poland and Hungary, for instance). It is considered that in 2011 the international factors had a stronger influence in the evolution of the Romanian capital market, as opposed to 2010 when local factors rather influenced the evolution of the capital market in Romania (Pasol, 2012).

Methodology of the study

In Romania, there is a professional association, namely the Romanian Association of Asset Managers (AAF) that groups the players on the capital market, representing their interests. The AAF is formed of 19 Asset Management Companies that in 2012 managed 53 open-ended funds and 14 closed-ended funds, five Financial Investment Companies and three depositary banks[1]. The information provided by AAF is used as the main source of data for the analysis that is conducted in the paper. AAF classifies the Romanian open-ended funds according to the portfolio structure as follows:

a) Monetary market funds. They include a mixture of low risk investment securities, such as bonds and monetary instruments. These funds have low risk.

[1] http://aaf.ro/index.php?option=com_content&view=article&id=66&Itemid=60, accessed at 15 October 2012.

b) Fixed-income instrument funds. They invest at least 90% of securities in various debt securities such as bonds and have interdiction to include shares in portfolios. These funds have low to moderate risk.

c) Mixed funds. They invest in a mixture of instruments, combined in any way and for any period of time, instruments that are not found in other categories. These funds have medium risk.

d) Stock (equity) funds. They invest at least 85% of securities in stocks. These funds have high risk.

This typology is used for the present analysis of funds. The goal of this study is to analyse the Romanian open-ended funds, by mapping them according to their performance during the studied period. The primary objective of the research is to determine the existence or not of a relationship between the funds' categories and their performance. The research has an exploratory character with the main purpose to analyze the performance of the Romanian open-ended funds in the present economic context, analysis that has not been conducted previously. The study can be considered a preliminary step that can facilitate further research on the topic.

The first methodological step was to identify the open-ended funds to be studied. The study uses secondary sources of information and data is collected from the official websites of professional organizations operating on the capital market. In order to identify the mutual funds to be included in the study, were consulted the websites of the Romanian capital market page[2] and the website of the Romanian Association of Asset Managers[3], as business sources. The number of open-ended funds to be included in the study of the present paper is 62 and they are presented in *Appendix 1*.

After composing the list of open-ended funds to be studied, the second methodological step was to collect the numerical data about the funds. Data was collected about the performance of the open-ended funds, measured as percentage change of fund unit value.

In the following stage, the performance of the open-ended funds for the years 2010, 2011, 2012 was analysed by looking at the annual percentage variation of the unit funds' value for each year: 2010 variation, 2011 variation and 2012 variation and the yearly Index of the Mutual Funds (IFM) that was also included in the analysis as a benchmark. The IFM is an indicator that is calculated based on the weighted average of the values of major mutual funds that are members of the Romanian Association of Asset Managers. Extreme funds) from the point of view of the net active values) are excluded. It is calculated weekly, monthly and yearly and it was first computed in 1998. The IFM index allows for the evaluation of the average annual dynamics of the funds market in Romania[4], as it is for interest to this paper. The annual variations of the different open ended funds were compared to the annual average evolution in the industry.

The difficulty in the approach is that the Romanian investment funds do not present homogenous data, meaning that not all funds make public their data on a constant basis. Even in the case of the funds that make public their data, there were some that partially lacked some of the performance data.

Microsoft Excel software was used to group the data collected in a table, presented in *Appendix 1*. The table includes the following inputs: fund name, fund administrator (institution), type of fund (money-market, fixed-income instrument, mixed, stock and other) and each fund performance (as annual percentage change in the unit fund value) for 2010, 2011 and 2012.

As clarifying comments on data collection:

[2] www.kmarket.ro, accessed at 15 October 2012.
[3] http://aaf.ro, accessed at 15 October 2012.
[4] http://www.kmarket.ro/documentare/arhiva/ifm.html, accessed at 15 October 2012.

a) firstly, the data on funds' performances is expressed in percentages (percentage of the unit fund value) and therefore the figures included in the analysis represent percentages;

b) secondly, in the analysis the funds were organized into five types, according to the classification provided by the Romanian Association of Asset Managers (see above).

Comparison between types of funds' performances and between the funds' performances over time, are conducted. Also, the market average performance based on IFM index, is used as a benchmark of the industry.

The analysis of the Romanian open ended funds' performance

The yearly changes in value of the unit fund of the open-ended funds is analyzed for each of the 2010, 2011 and 2012 years and then they are compared with one another and with the average evolution of the industry, represented by the IFM index. *Figure 1* presents the yearly change of fund unit value in the Romanian open ended funds for 2010.

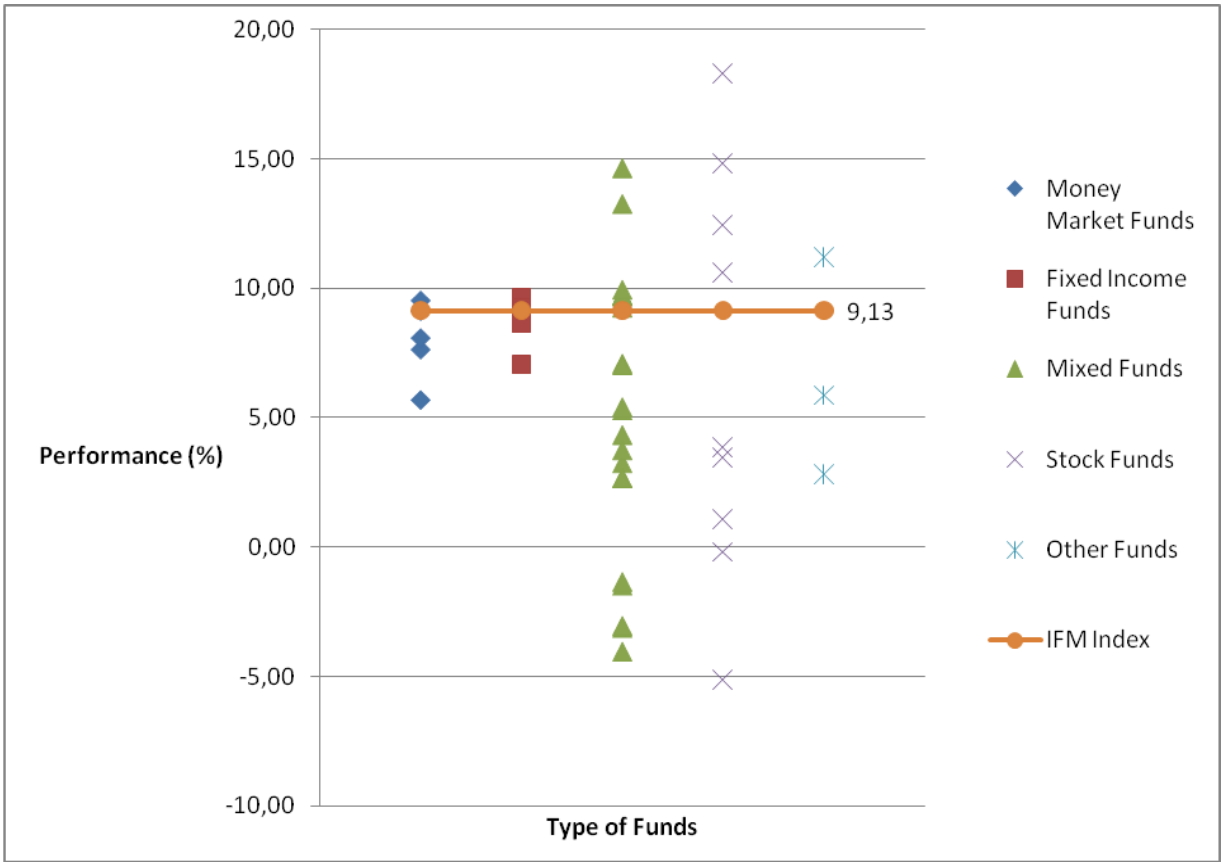

Figure 1. Yearly change in fund unit value of Romanian open ended funds in 2010
Sources: Kmarket – Pagina pieței de capital din România, [on line], availavle from www.kmarket.ro, [Accessed at 15 October 2012]. Detailed in Appendix 1.

For 2010 there were 41 funds included in the analysis and they have been categorized as follows: 5 were money market funds, 4 were fixed-income instrument funds, 20 were mixed funds, 9 were stock funds and 3 were other types of funds. The money-market and the fixed-income instrument funds had percentage unit fund value changes placed in the [5.56; 9.51] and [7.05; 9.64] intervals. The mixed funds had a large variation [-4.06; 14.64]. The stock funds had the highest variation interval situated between [-5.11; 18.32] and the others funds

had positive values comprised between [2.79; 11.22]. Even when outliners are eliminated, each fund category has a similar yearly evolution. This comes on the one hand, to reinforce the fact that mixed diversified funds and stock funds bear the highest risks, as some of those had positive evolutions while others had negative evolutions, while money market and fixed income funds bear lower risk as they all had positive evolutions.

At the same time, it is noticed that the low risk open ended funds (money market and fixed income) registered small increases comprised between 5% and 10%, while the high risk funds (mixed funds and stock equity funds) that registered increases had very diverse values, some had higher values of up to 20%, but some had lower increases of up to 5%.

As compared to the industry average (IFM index increase was 9.13%), only some of the high risk funds outperformed the market, while the other fund categories performed at the same level or lower than the industry average. This illustrates that higher risk funds payed off in this case.

For 2011 there were included in the analysis 56 funds and *Figure 2* illustrates the yearly changes in the unit fund value of the Romanian open ended funds for 2011.

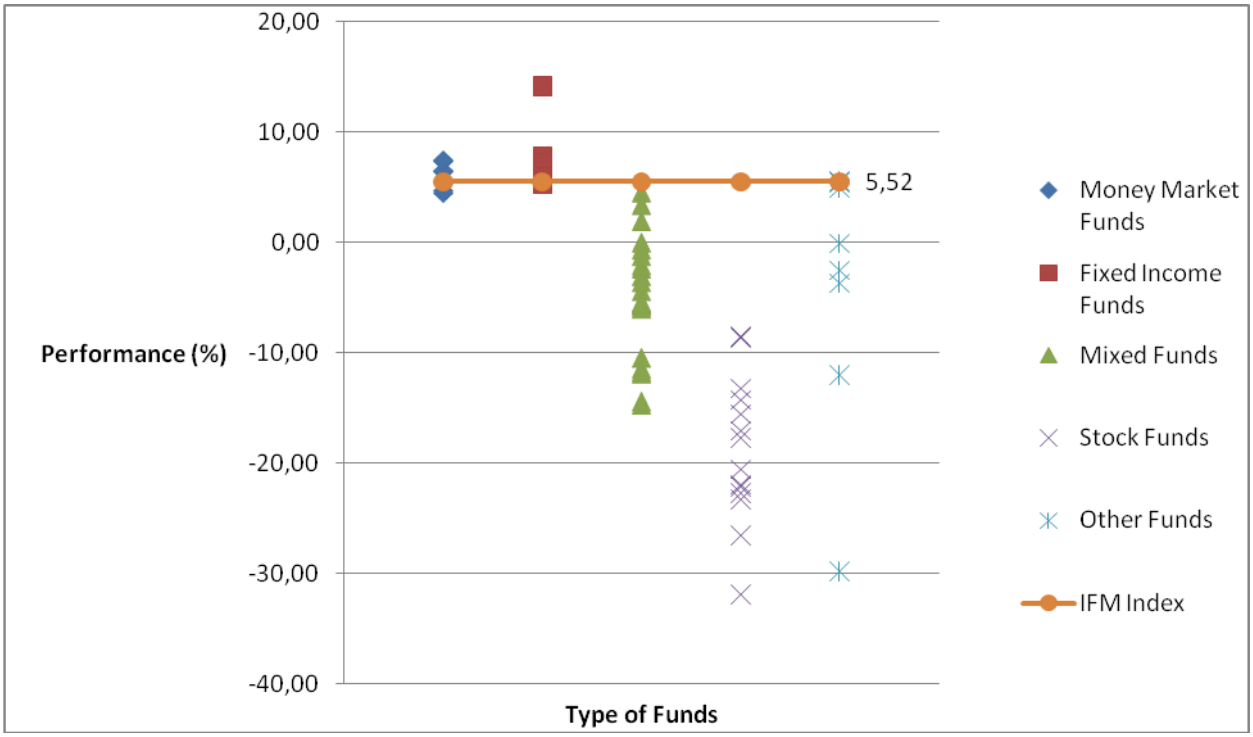

Figure 2. Yearly change in unit fund value of Romanian open ended funds in 2011
Sources: Kmarket – Pagina pieței de capital din România, [on line], availavle from www.kmarket.ro, [Accessed at 15 October 2012]. Detailed in appendix no. 1.

From the 56 funds analyzed, 6 funds were money-market funds, 6 were fixed-income instrument funds, 22 were mixed funds, 14 were stock funds and 8 were in the other funds category.

In 2011 the overall performance of the open-ended funds was much weaker as compared to the previous year, 2010. The average industry index IFM decreased to 5.52% in 2011 from 9.13% in 2010.

The analysis on types of funds illustrates that in 2011, the performance of the low risk funds (monetary and income-fixed funds) was good as yearly evolutions were positive, while

the performance of high risk funds (mixed and stock funds) was bad as yearly evolutions were rather negative. It can be noticed that the fixed-income instrument funds had the best performances, all positive and ranging from 5.25% to 14.14%.

The money market funds had slightly lower returns as compared to 2010, fluctuating in the 4.42% to 7.41% interval, in 2011. The situation was different for the mixed and stock funds that reached lower levels of returns, with negative changes. For the mixed funds, the returns were uniformly distributed in the interval [-14.78; 4.50]. The stock funds spread between [-31.97; -8.64] in 2011.

The dynamics of the open ended funds for the year 2011 was highly influenced by the evolution of the Stock Exchange, that in its turn presented high levels of correlation with the region's stock exchanges (Pasol, 2012).Therefore, the decreases in the value of the stocks traded at European level were encountered at the Bucharest Stock Exchange, too, in 2011, therefore influencing negatively the dynamics of the fund unit values of mutual funds.

For the year 2012, there were analyzed 60 funds, out of which 8 were money-market funds, 6 were fixed-income instruments funds, 24 were mixed funds, 15 were stock funds and 8 were in the other funds category. Yearly changes in the funds performances (measured as changes in the value of the fund unit) for year 2012 are presented in *Figure 3*.

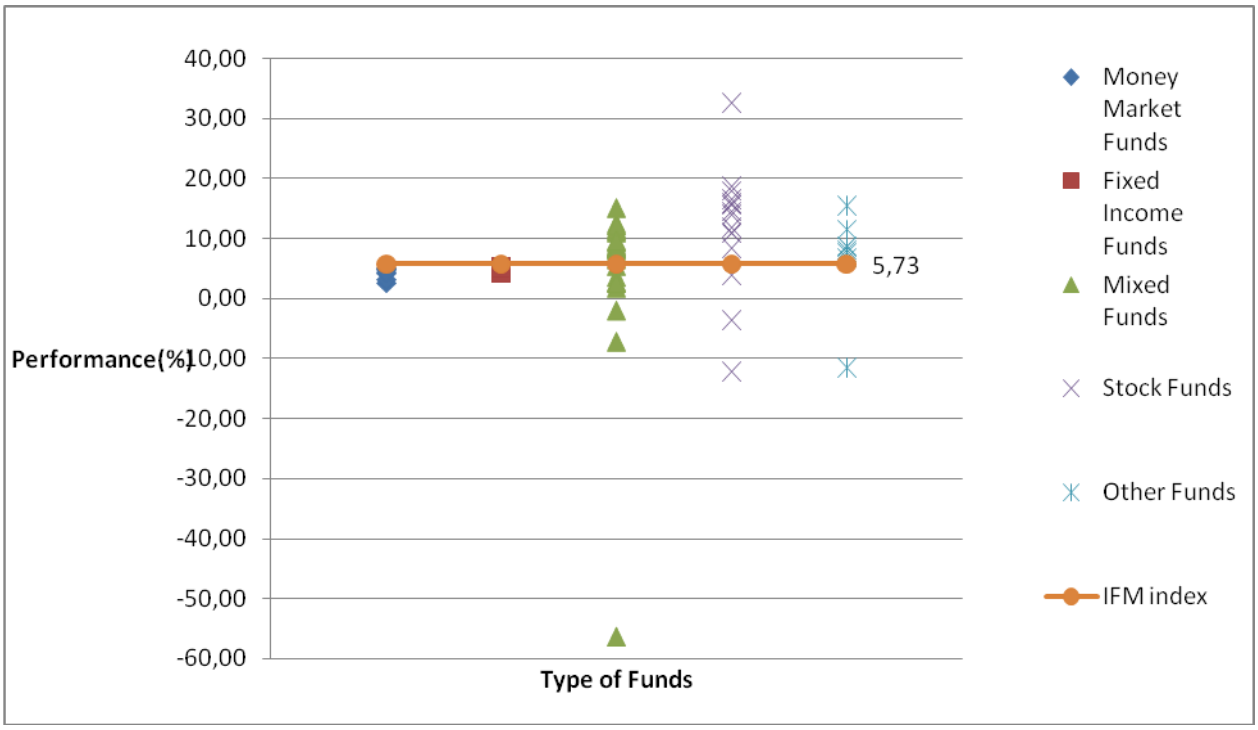

Figure 3. Yearly change in unit fund value of Romanian open ended funds in 2012
Sources: Kmarket – Pagina pieței de capital din România, [on line], availavle from www.kmarket.ro, [Accessed at 15 October 2012]. Detailed in appendix no. 1.

The overall performance in the open ended funds market slightly improved in 2012 as compared to 2011, as illustrated by the average value of the mutual funds market expressed through the IFM index that increased by 5.73% in 2012 and 5.50% in 2011.

Looking at the correlation between the type of fund and the returns, it can be noticed that high risk funds performed better than low risk funds in 2012. The money market funds had some returns as their annual change was positive, ranging from 2.54% to 5.04%. The fixed-income instrument funds were close by, with positive values, but slightly higher returns

that varied between 4.22% and 5.20%. The returns for the mixed funds were both positive and negative, ranging between -7.21% (with a -56.47% extreme value) and 15.11%. The stock funds were also both negative and positive, some with better returns then all the other funds, the interval being from -12.24% to 32.71%. The other funds category had one negative value, whereas the rest were positive, but lower in value, as compared to the money market funds.

The results of the basic analysis conducted for the three years envisaged in the present study 2010-2012, illustrate similar trends as the ones encountered in the Romanian investment funds market in a larger period of time including the beginning of the economic crisis period (Zăpodeanu and Cociuba, 2009). The authors made an analysis of the Romanian investment funds market in the period 2004-2009 and found that in the period of economic growth the mixed funds and the stock funds outperformed the market, while after 2007 when the global economic crisis debuted, the performances of mixed funds and stock funds decreased (the stock funds sharply), while the performances of monetary funds and bond funds started to increase.

Conclusions

The objective of the paper was to look at the reciprocal influences between the types of mutual funds and their performances in a period of economic difficulty. The type of mutual fund influences the performance of the fund and vice-versa. Based on the analysis of the open-ended funds annual dynamics for the three years period 2010-2012, it can be concluded that the safest earnings that had constant positive returns were monetary funds. The low scatter of the monetary funds' results, re-confirms the character of the money market funds as low risk investment funds. Bond funds followed the evolution of the monetary funds, with one difference, the fact that in some years some bond funds/fixed income funds had better performances than monetary funds (for instance 2010 and 2011). At the same time, the scattering of these funds' results was lower than the one of the monetary funds, resulting a risk relationship lower than that of the monetary funds.

The mixed funds, which are the most numerous investment funds in Romania, had a favourable dynamic in 2010 and 2012 and a weak dynamic in 2011, being highly correlated with the evolution of the stock Exchange Market, as they include shares of companies that are quoted at the Stock Exchange. Year 2011 was a crisis year for the Romanian Stock Exchange, when the BET index (representing the average weighted price of the 10 most liquid companies listed) was -17.68%., registering a high decrease[5]. The scattering of the results is higher for mixed funds, corresponding to the risk associated to each fund. On overall for the three year period, the weak dynamics of 2011, managed to annul the good dynamics of the mixed funds in 2010 and 2012. The analysis shown that the highest disequilibrium in the three years dynamics was encountered in the case of stock funds, that in 2010 and in 2012 had positive dynamics, while 2011 was disastrous year for them, with solely negative dynamics. With just one exception, the evolution of the majority of stock funds, as high risk funds did not manage to perform on the Romanian capital market. Other funds categories managed to register a satisfactory evolution during the three years analyzed, without reaching the earnings obtained by monetary and fixed income funds.

It is easily noticeable that in periods of economic downturn the best investment placements for Romania were in bonds funds that managed to outperform the Mutual Funds Index of Romania.

The studied period of economic difficulty showed that monetary and bonds funds, that are low risk funds had a constant good evolution within the industry average, while all other

[5] http://www.bvb.ro/IndicesAndIndicators/indices.aspx?t=0&p=BSE&i=BET&m=&d=10/27/2012, accessed at 20 October 2012.

funds that were related to the evolution of the Stock Exchange underperformed the market, on overall for the three years, in spite of good yearly dynamics in two of the studied years.

As final conclusions for the study, there can be mentioned:

a) in periods of economic turmoil, low risk funds such as monetary funds and bond funds perform better on the long term and are safer for investors in emerging capital markets, such as Romania.

b) mixed funds and stock funds as high risk investment options, confirm the high risk relationship with the performances, as they can very easily either outperform or underperform the market average, especially in periods of economic unrest. It is not excluded that on the short term, these funds to have high performances, even in periods of economic crisis, however long term placements usually illustrate lower performances.

c) periods of economic crisis determine increased levels of volatility for capital markets. As other studies have shown, the Romanian capital market had a high volatility during the full crisis period (2007-2008) and a slightly decreasing one in the years after (2009-2010) (Panait and Slavescu, 2011), being highly correlated with other capital markets in Europe.

References

Agrawal D. (2007), Measuring performance of Indian mutual funds, *Prabhandan Tanikniqui*, vol. 1, no. 1, LNCT-MER Indore India.

Amenc N. and Le Sourd V. (2003), *Portfolio theory and performance analysis*, Wiley Finance.

Asociaţia Administratorilor de Fonduri din România, [on line], available from www.aaf.ro, [Accessed at 15 October 2012].

Bird R. Chin H. and McCrae M. (1983), The performance of Australian superannuation funds, *Australian Journal of Management*, vol. 8, pp. 49-69.

Basso A. and Funari S. (2003), Measuring the performance of ethical mutual funds: a DEA approach, *Journal of the Operational Research Society*, vol. 54, pp. 521-531.

Blake D. and Timmermann A. (1998), Mutual fund performance: evidence from UK, *European Finance Review*, vol. 2, pp. 57-77.

Bodie Z., Kane A. and Marcus A.J. (2009), *Investments*, McGraw Hill International.

Bursa de Valori Bucureşti, [on line], available from www.bvb.ro, [Accessed at 15 October 2012].

Casarin R., Pelizzon L. and Piva A. (2008), *Italian equity funds: efficiency and performance persistence*, [on line], available from www.ssrn.com, [Accessed at 15 October 2012].

Charnes A., Cooper W.W. and Rhodes E. (1978), Measuring the efficiency of decision making units, *European Journal of Operational Research*, no. 2, pp. 429-444.

Cuthbertson K., Nietzsche D. and O'Sullivan N. (2012), False discoveries in UK mutual fund performance, *European Financial Management*, vol. 18, no. 3, pp. 444-463.

Dierkes M., Erner C and Zeisberger S. (2010), Investment horizon and the attractiveness of investment strategies: A behavioural approach, *Journal of Banking and Finance*, vol. 27, no. 3, pp. 1032-1046.

Ferreira A.M., Miguel F.A. and Ramos B.S. (2010), The determinants of mutual fund performance: a cross-country study, *Swiss Finance Institute Research Paper* no. 31.

Filip A.M. (2008), *The evaluation of the performance of mutual funds in Romania*, House of Science Book publisher.

Gollier C. and Zeckhauser, R.J. (2002), Horizon length and portfolio risk, *Journal of Risk and Uncertainty*, vol. 24, no. 3, pp. 195-212.

Grinbblatt M. and Titman S. (1994), A study of monthly mutual fund returns and portfolio performance evaluation techniques, *Journal of Financial and Quantitative Analysis*, vol. 29, pp. 419 - 444.

Gruber M.J. (1996), Another puzzle: the growth in actively managed mutual funds, *Journal of Finance*, vol. 51, no. 3, pp. 783-810.

In F., Kim S., Marisetty V. and Faff R. (2008), Analyzing the performance of managed funds using the wavelet multiscaling method, *Review of Quantitative Finance and Accounting*, vol. 31, no. 1, pp. 55-70.

Institutul Naţional de Statistică – INS (The National Statistical Institute of Romania) (2012), *The Statistical Yearbook of Romania*, 2012, Bucharest.

International Monetary Fund – IMF (2012), *World Economic Outlook: Growth Resuming, Dangers Remain*, IMF April 2012, Washington.

Jensen M.C. (1968), The performance of mutual funds in the period 1945-1964, *Journal of Finance*, vol. 23, no. 2, pp. 389-416.

Klos A., Weber E.U. and Weber M. (2005), Investment decisions and time horizon: risk perception and risk behaviour in repeated gambles, *Management Science*, vol. 51, no. 12, pp. 1777-1790.

Kmarket – Pagina pieţei de capital din România, [on line], availavle from www.kmarket.ro, [Accessed at 15 October 2012].

Kothari P.S. and Warner B.J. (2001), Evaluating mutual fund performance, *Journal of Finance*, vol. 56, pp. 1985-2010.

Lenard M.J., Akhter S.H. and Alam P. (2003), Mapping mutual funds investor characteristics and modelling switching behaviour, *Financial Services Review*, vol. 12, no. 1, pp. 39-59.

Levisasuskaite K. (2010), Investment Analysis and Portfolio Management, Leonardo da Vinci project programme, [on line], available from http://www.bcci.bg/projects/latvia/pdf/8_IAPM_final.pdf, [Accessed at 10 February 2013].

Levy H. (1972), Portfolio performance and the investment horizon, *Management Science*, vol. 18, no. 12, pp. B645-B653.

Morey M.R. and Morey R.C. (1999), Mutual fund performance appraisals: a multi-horizon perspective with endogenous benchmarking, *International Journal of Management Science*, vol. 27, no. 2, pp. 241-258.

Murthi B.P.S., Choi Y.K. and Desai P. (1997), Efficiency of mutual funds and portfolio performance measurement: a non-parametric approach, *European Journal of Operational Research*, vol. 98, pp. 408-418.

Noulas G.A., Papanastasiou A.J. and Lazaridis J. (2005), Performance of mutual funds, *Managerial Finance*, vol. 32, no. 2, pp. 101-112.

Pasol R. (2012), Evoluţia pieţei de capital în România în 2011, The evolution of the capital market in Romania in 2011, *Puls Capital*, an XIV, no. 678, 6 January 2012, pp. 1-3.

Panait I. And Slavescu O. E. (2011), Volatility and causality study of the daily returns on the Bucharest Stock Exchange in the period 2007-2010, MPAR, Munich Personal RePec Archive, Paper no. 41786, [on line], available from http://mpra.ub.uni-muenchen.de/41786/, [Accessed at 10 February 2013].

Prisăcariu M, Ursu S. and Andrieş A. (2008), *Pieţe şi instrumente financiare*, Iaşi, Editura Universităţii Alexandru Ioan Cuza.

Reilly F.K. and Brown K.C. (2003), *Investment Analysis and Portfolio Management*, Thomson South Western.

Soongswang A. And Sanohdontree Y. (2011), Equity mutual fund: performances, persistence and fund rankings, *Journal of Knowledge Management, Economics and Information Technology*, issue 6, October 2011, pp. 1-27.

Sengupta J.K. (2003), Efficiency tests for mutual funds portfolios, *Applied Financial Economics*, vol. 13, pp. 869-876.

Sharpe, W. (1991), The Arithmetic of Active Management, *The Financial Analysts' Journal*, Vol. 47, No. 1, January/February 1991. pp. 7-9.

Shukla R. (2004), The value of active portfolio management, *Journal of Economics and Business*, no. 56, pp. 331-346.

Tang G.Z.N., Lee R.S.K. (1997), Investment horizon and composition of optimal portfolio: international evidence, *Financing Engineering and the Japanese Markets*, no. 4, pp. 75-96.

Zăpodeanu D. and Cociuba M.I. (2009), The performance of investment funds in Romania in the context of the crisis, *Annals of the University of Oradea: Economic Science*, Vol. 3, Issue 1, pp. 717- 722.

Zhao X.J. (2007), A dynamic model of active portfolio management in benchmark orientation, *Journal of Banking and Finance*, no. 31, pp. 3336-3356.

Appendix 1. Performances of Romanian Open-End Funds 2010 – 2012

Fund Name	Fund Manager	2010 (%)	2011 (%)	2012 (%)	Fund value (mil. lei)
MONEY MARKET FUNDS					
SIMFONIA 1	SG Asset Management	7,61	6,37	4,18	475,9300
OTP COMODISRO	OTP Asset Management	8,06	6,45	4,84	161,7100
RAIFFEISEN RON PLUS	Raiffeisen Asset Management	9,10	7,33	5,04	1.666,6200
FORTUNA GOLD	Target Asset Management	5,66	4,42	2,54	0,6100
CERTINVEST MONETAR	Certinvest	9,51	7,41	4,84	6,4100
iFOND MONETAR	Intercapital Investment Management	n/a	4,63	3,12	1,7200
RAIFFEISEN RON FLEXI	Raiffeisen Asset Management	n/a	n/a	4,33	242,5200
ERSTE MONETAR	Erste Asset Management	n/a	n/a	n/a	16,6028
FIXED-INCOME INSTRUMENTS FUNDS					
CERTINVEST OBLIGATIUNI	Certinvest	9,64	7,49	5,11	22,1500
STABILO	Pioneer Asset Management	7,05	5,25	4,19	30,3300
BCR OBLIGATIUNI	Erste Asset Management	9,26	7,78	5,20	3.436,7956
BT OBLIGATIUNI	BT Asset Management	8,66	7,13	4,75	260,1700
BRD CONCERTO	SG Asset Management	n/a	5,94	4,22	16,6300
OTP OBLIGATIUNI	OTP Asset Management	n/a	14,14	5,15	24,3400
CARPATICA OBLIGATIUNI	Carpatica Asset Management	n/a	n/a	n/a	7,9700
MIXED FUNDS					
BCR DINAMIC	Erste Asset Management	5,28	-2,11	11,31	29,9611
CERTINVEST PRUDENT	Certinvest	3,23	-5,85	6,54	4,1700
FORTUNA CLASIC	Target Asset Management	-3,14	-5,71	2,78	6,4800
INTEGRO	Pioneer Asset Management	2,65	-6,05	8,48	16,9900
TRANSILVANIA	Globinvest	7,08	-1,28	11,04	20,5900
STAR FOCUS	Star Asset Management	5,40	-0,69	5,44	4,1400
RAIFFEISEN BENEFIT	Raiffeisen Asset Management	9,25	-4,46	12,54	15,0900
KD OPTIMUS	KD Investments Romania	9,72	-11,95	3,60	0,7800
BT CLASIC	BT Asset Management	7,03	1,91	8,64	33,7100
OPORTUNITATI NATIONALE	Vanguard Asset Management	-3,06	-2,40	-2,00	0,2200
ZEPTER MIXT	Zepter Asset Management	-1,50	-5,57	7,32	5,5700
CARPATICA GLOBAL	Carpatica Asset Management	13,26	4,50	8,27	23,7900
BRD DIVERSO	SG Asset Management	9,70	-3,09	11,68	24,2100
VANGUARD PROTECTOR	Vanguard Asset Management	4,32	3,36	1,81	0,6800
ZEPTER OBLIGATIUNI	Zepter Asset Management	2,65	-3,63	8,85	4,0300
NAPOCA	Globinvest	9,68	-5,44	8,21	11,7300
CERTINVEST DINAMIC	Certinvest	-1,36	-11,50	12,22	8,3300
STAR NEXT	Star Asset Management	3,73	-0,04	7,74	5,0700
ZEPTER ACTIUNI	Zepter Asset Management	-4,06	-14,78	9,34	9,1800
CARPATICA STOCK	Carpatica Asset Management	14,64	-10,53	9,66	11,8800
OMNITRUST	Sira	9,71	-11,77	-7,21	1,5400

BRD ACTIUNI	SG Asset Management	9,94	-14,48	15,11	14,3200
CERTINVEST NEXT GENERATION	Certinvest	n/a	n/a	2,58	0,1400
CERTINVEST SHORT FUND	Certinvest	n/a	n/a	-56,47	0,0600
STOCK FUNDS					
ACTIVE DINAMIC	Swiss Capital Asset Management	-5,11	-31,97	-3,64	4,4600
BCR EXPERT	Erste Asset Management	3,89	-8,64	15,92	12,0247
BT MAXIM	BT Asset Management	1,10	-22,75	11,82	43,0600
OMNINVEST	Sira	18,32	-26,56	-12,24	1,2100
RAIFFEISEN PROSPER	Raiffeisen Asset Management	12,47	-21,99	18,77	22,8000
BT INDEX	BT Asset Management	10,62	-23,32	13,95	12,0400
RAIFFEISEN ROMANIA ACTIUNI	Raiffeisen Asset Management	-0,16	-17,09	16,61	10,6400
KD MAXIMUS	KD Investments Romania	14,84	-20,60	10,94	30,0000
OTP AVANTISRO	OTP Asset Management	3,47	-14,33	14,49	9,1300
CERTINVEST XT INDEX	Certinvest	n/a	-13,27	15,61	0,8800
iFOND ACTIUNI	Intercapital Investment Management	n/a	-22,15	8,36	0,3600
INDEX EUROPA REGIONAL	SG Asset Management	n/a	-15,57	17,97	2,3600
CERTINVEST BET-FI INDEX	Certinvest	n/a	-8,53	32,71	1,4000
CERTINVEST BET INDEX	Certinvest	n/a	-17,74	10,83	0,5500
PISCATOR EQUITY PLUS	SAI Piscator Capital	n/a	n/a	3,84	32,7600
OTHER FUNDS					
BCR EUROPA AVANSAT	Erste Asset Management	2,79	-2,61	8,65	9,5047
RAIFFEISEN CONFORT	Raiffeisen Asset Management	11,22	-0,16	11,53	15,1500
RAIFFEISEN CONFORT 2	Raiffeisen Asset Management	n/a	-3,73	6,79	23,7400
RAIFFEISEN EURO PLUS (EURO)	Raiffeisen Asset Management	5,87	4,84	7,62	1.256,3816
BRD EURO FOND	SG Asset Management	n/a	5,52	8,13	277,3402
AUDAS PISCATOR	SAI Piscator Capital	n/a	-12,08	-11,65	1,8056
OTP EURO BOND	OTP Asset Management	n/a	5,38	8,73	54,8451
BT INDEX ATX	BT Asset Management	n/a	-29,90	15,55	8,6669

Data retrieved at 27 September 2012 from www.kmarket.com, total number of funds: 62
Note 1: Classification of the Romanian Open-End Funds is realised by the Romanian Association of Asset Management (AAF) using EFAMA standards
Note 2: Exchange rate at 27 September 2012: 4,5140 RON/EUR
IFM – performance 2010 (%): 9,13; IFM – performance 2011 (%): 5,50; IFM – performance 2012 (%): 5,73