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The timing ability and global performance of Tunisian mutual fund managers: A multivariate GARCH approach

Abdelmonem Oueslati [a], Yacine Hammami [b,*], Faouzi Jilani [c]

[a] University of Tunis-El Manar, FSEG Tunis, Tunisia
[b] University of Tunis, ISG Tunis, Tunisia
[c] ISCC Bizerte, Tunisia

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ABSTRACT

It is well-established in the financial literature that the global performance of mutual fund managers is the result of two skills: selectivity and market timing. This paper examines whether the multivariate Generalized Autoregressive Conditional Heteroskedasticity (GARCH) approach improves our perception of the global performance of fund managers compared with the unconditional approach and the conditional approach based on instruments. We find strong evidence that the multivariate GARCH method makes mutual fund performance looks better relative to the existent approaches, but this improvement in the global performance does not mean necessarily that mutual funds outperform traditional benchmarks. Indeed, mixed mutual funds yield neutral performance relative to benchmarks, whereas bond mutual funds generate significant positive global coefficients. The strong performance of bond fund managers comes from their ability to pick profitable bonds, not from their ability to time the market. Also, the empirical tests highlight that the best (worst) bond funds in the past remain at the top (bottom) of the ranking in the following years. These findings suggest that the Tunisian bond market presents strong opportunities for sophisticated investors.

* Corresponding author. Tel.: +216 97020680.
E-mail address: hammami_yacine@yahoo.fr (Y. Hammami).

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1. Introduction

Appraising mutual fund performance is the last stage of the portfolio management process. Fama (1972) suggests a decomposition of the overall portfolio performance into two sources: selectivity and market timing. Selectivity skills refer to the ability of fund managers to pick up undervalued assets. Market timing skills denote their ability to predict future stock market fluctuations. It is common in the literature to measure selectivity using the Jensen (1968) alpha and market timing using the Treynor and Mazuy (1966) coefficient. Treynor and Mazuy (1966) include an additional variable to the Capital Asset Pricing Model (CAPM) in order to capture the timing ability of managers, which is the squared market returns. The shortcoming of the Treynor and Mazuy (1966) methodology is the use of constant risk parameters which does not allow an accurate evaluation of the different components of performance. Indeed, when managers engage in dynamic strategies, systematic risks will be time-varying and static regressions will produce biased estimates.

The conditional approach based on instruments urged by Ferson and Schadt (1996); Ferson and Qian (2004), Ferson et al. (2008), Leite et al. (2009), and Chen et al. (2010) represent an alternative to the static approach, as it takes into account time-varying betas. Ferson and Schadt (1996) document an improvement in our perception of the global performance of mutual fund managers, when lagged conditioning variables are included in the CAPM. The drawback of the conditional approach based on instruments lies in the fact that we have to make the assumption that all investors use the same instruments to capture public information.

To avoid the arbitrary choice of conditioning variables, Coggins et al. (2009) resort to the bivariate GARCH approach which consists of describing the conditional variance of fund returns using their lagged squared residual returns, their lagged volatility, and their lagged covariances with the market excess return. Coggins et al. (2009) show that the GARCH approach makes mutual fund performance looks better relative to the existent approaches. Nonetheless, as stressed by Hammami et al. (2013), the fact that the bivariate GARCH approach uses the CAPM as the true asset pricing model is an important limitation, given the empirical evidence against this model (see, for example, Fama and French, 2008).

Hammami et al. (2013) propose a multivariate GARCH approach to account for multiple risk factors instead of using only the market excess return, as in Coggins et al. (2009). They document that active portfolio management outperforms passive portfolio management in Tunisia, only when we implement the multivariate GARCH approach. However, Hammami et al. (2013) focus only on selectivity using the Jensen alpha. The purpose of this paper is to implement the multivariate GARCH approach of Hammami et al. (2013) to appraise the timing ability as well as the global performance of Tunisian mutual fund managers.

Market timing has received a great deal of attention in the financial literature (Getmansky et al., 2004; Romacho and Cortez, 2006; Coggins et al., 2009; Chen et al., 2010). Getmansky et al. (2004) document that, due to illiquidity effects, the current price of a fund might reflect past information. This phenomenon is known as stale pricing. Chen et al. (2010) deal with this issue by including in the instrumental variables the lagged square market returns in addition to the squared market returns. They discover that taking into account the effects of stale pricing improves the timing ability of bond mutual fund managers. Coggins et al. (2009) also introduce in the bivariate GARCH framework the lagged square market returns, but the results do not support the presence of timing ability for US mutual fund managers.

This paper examines this issue using the multivariate GARCH approach of Hammami et al. (2013) in the Tunisian context. As explained by Hammami et al. (2013), the Tunisian context offers an interesting framework for investigating mutual fund performance, since market inefficiencies make it easier for sophisticated investors to generate abnormal returns. The empirical findings confirm that using the multivariate GARCH approach improves our perception of the global performance of Tunisian mutual fund managers. We also find that bond mutual fund performance persists over time. This gives support to the general hypothesis that the Tunisian capital market offers huge opportunities for sophisticated investors.

The rest of this paper is organized as follows. Section 1 presents the static evaluation of both selectivity and market timing. Section 2 describes the conditional approach based on instruments and the multivariate GARCH approach. Section 3 reports the empirical results. Section 4 concludes.