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Mutual fund performance in Tunisia: A multivariate GARCH approach

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ABSTRACT

This article investigates mutual fund performance in the Tunisian capital market using conditional multifactor models. In the mutual fund literature, the traditional approach to capture conditionality is the use of predetermined instruments. This study proposes a multivariate Generalized Autoregressive Conditional Heteroskedasticity (GARCH) approach to compute conditional measures. Overall, we find evidence of persistence in mutual fund performance only when we implement the multivariate GARCH method. This result is due to the fact that the Jensen alphas are estimated more precisely in the multivariate GARCH model than in the other approaches. These results indicate that the Tunisian capital market presents strong investment opportunities for sophisticated investors such as mutual funds.

Assessing mutual fund performance is crucial for the issue of market efficiency, since any ability of mutual fund managers to consistently outperform the market is viewed as evidence that the market is inefficient. This topic is also important for investors, as performance measures provide a tool to select the best mutual funds, thereby optimizing their investment decision.

There is an abundant literature dealing with the issue of mutual fund performance. Yet, there is no clear-cut result in favour or against the presence of informed managers. On the one hand, Jensen

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(1968), Elton et al. (1996), Ferson and Schadt (1996), Ferson et al. (2006) and Chen et al. (2010) document that risk-adjusted returns on mutual funds are not, on average, statistically significant. On the other hand, Ippolito (1989), Cohen et al. (2005), Kacperczyk and Seru (2007), Coggins et al. (2009) and Vidal-Garcia (2012) find that abnormal returns generated by actively managed funds are substantially high compared with different benchmarks, even after accounting for management expenses and transaction costs.

This controversy is caused by many methodological issues. The question of how to capture time-varying risk is one of the key issues in this area. In fact, it is well known that the traditional Jensen alphas do not account for time-varying risks, since it is computed via unconditional models. Ferson and Schadt (1996) and Ferson et al. (2006) advocate monthly conditional measures based on predetermined instruments known to predict future monthly returns. They demonstrate that mutual fund performance 'looks better' when conditional alphas are implemented using instruments, but they remain statistically insignificant. By contrast, Coggins et al. (2009) show that when bivariate GARCH models are employed to capture time-varying conditional covariances, daily conditional Jensen's alphas are on average statistically significant.

This article extends the work of Coggins et al. (2009) in two ways. First, the shortcoming of the bivariate GARCH method of Coggins et al. (2009) lies in the fact that it uses the Capital Asset Pricing Model (CAPM) to compute Jensen's alphas. As empirical studies show that the excess market return alone does not explain expected returns (see Hammami and Jilani (2011) for the Tunisian case), this study turns to multivariate GARCH models, so that we can account for other risk factors. Second, daily returns in emergent markets present many challenges such as missing data and microstructure effects (Bekaert et al., 2007). Monthly returns are known to be less sensitive to these problems, so it is more reliable in our context to work on monthly data.

The research on mutual fund performance has focused mainly on the US, one of the most efficient capital markets. In contrast, emerging markets are likely to be less efficient due to high asymmetric information, legal restrictions, low liquidity, slow diffusion of information, etc. Hence, if mutual fund managers who actively pick assets do really possess superior information, the focus on emerging markets should result in more evidence that active management outperforms passive management.

This issue has recently been addressed by Romacho and Cortez (2006), Khorana et al. (2009), Brau and Rodríguez (2009), Babalos et al. (2009) and Bialkowski and Otten (2011). The latter show that Polish mutual funds generate on average negative abnormal returns after accounting for expenses and transaction costs. Similarly, Babalos et al. (2009) document that in Greece; mutual fund performance is negatively related to management fees. As pointed out by Khorana et al. (2009), mutual funds in emerging markets are in general characterized by sizeable expenses and load fees that offset the abnormal returns achieved by active management. Because the Tunisian capital market is even less informationally efficient than the Polish and Greek markets, informed fund managers might have enough superior information to warrant the management fees they charge investors. This article examines this hypothesis.

The empirical results highlight that mutual fund alphas in Tunisia are on average positive and statistically significant only when we implement the GARCH method. This is attributed to the fact that the alphas are estimated more precisely in the GARCH approach compared with the unconditional approach and the conditional approach with instruments. Thus, consistent with our expectation, the Tunisian capital market seems to be inefficient, and so presents strong investment opportunities for sophisticated investors such as mutual funds.

The rest of the paper is organized as follows. Section 1 presents the theoretical framework and introduces the multivariate GARCH approach. Section 2 reports the empirical results. Section 3 concludes the article.

1. Theoretical framework

In this study, we look at mutual fund performance via the Jensen alpha, which is computed as the difference between the average excess returns on a fund and the average returns on a set of portfolios that track common risk factors. The Jensen alphas are expected to be zero or negative if mutual fund managers do not have superior information.