Journal of Empirical Finance 20 (2013) 96–101

Contents lists available at SciVerse ScienceDirect

Journal of Empirical Finance

journal homepage: www.elsevier.com/locate/jempfin

A global approach to mutual funds market timing ability

Laurent Bodson [a,b,1], Laurent Cavenaile [b,2], Danielle Sougné [b,*]

[a] Gambit Financial Solutions SA, Belgium
[b] HEC - Management School, University of Liège, rue Louvrex, 14 (N1), 4000 Liège, Belgium

ARTICLE INFO

Article history:
Received 9 December 2011
Received in revised form 26 October 2012
Accepted 4 November 2012
Available online 13 November 2012

JEL classification:
G11
G12

Keywords:
Mutual fund
Market timing
Market return
Volatility
Liquidity

ABSTRACT

In this paper, we globally investigate market timing abilities of mutual fund managers from the three perspectives: market return, market-wide volatility and aggregate liquidity. We propose a new specification to study market timing. Instead of considering an average market exposure for mutual funds, we allow mutual fund market betas to follow a random walk in the absence of market timing ability. As a consequence, we capture market exposure dynamics which is really due to manager market timing skills while allowing dynamics to come from other sources than market timing. We find that on average 6% of mutual funds display return market timing abilities while this percentage amounts to respectively 13% and 14% for volatility and liquidity market timing. We also analyze market timing by investment strategies and for surviving and dead funds. Dead funds exhibit lower volatility and liquidity timing skills than live funds.

1. Introduction

Since the seminal paper of Treynor and Mazuy (1966), the market timing ability of investment fund managers has been extensively investigated. Several authors (notably Bollen and Busse (2001), Chang and Lewellen (1984), Henriksson (1984), Kon (1983), Lee and Rahman (1990), Treynor and Mazuy (1966), and Jiang et al. (2007)) focus on the ability of mutual fund managers to use their prediction about future market returns to deliver abnormal returns. As suggested by Cao et al. (2011), the relative lack of evidence supporting mutual fund managers' market timing skills from the return perspective may be due to the difficulty linked to the prediction of future market returns.

Besides return-timing, the literature on the market timing ability of investment fund managers has also recently developed along two other perspectives. On the one hand, the development of techniques which are relatively reliable in predicting return volatility may be used by mutual fund managers to adjust their market exposure accordingly. In order to protect their performance from higher levels of volatility, they may decide to decrease (increase) their exposure to equities when the market is expected to become more (less) volatile. Using daily data, Busse (1999) shows that mutual fund managers tend to use their volatility timing ability and that this market timing ability leads to higher risk-adjusted performance.

More recently, Cao et al. (2011) have investigated the market timing ability of mutual fund managers from the market-wide liquidity perspective. They suggest that mutual fund managers may adjust their systematic risk as a function of the level of aggregate liquidity. In times of high liquidity, mutual funds would tend to increase their exposure to the market while they would

* Corresponding author. Tel.: +32 4 232 7305.
E-mail addresses: l.bodson@gambit-finance.com (L. Bodson), laurent.cavenaile@ulg.ac.be (L. Cavenaile), danielle.sougne@ulg.ac.be (D. Sougné).
[1] Tel: +32 476 975 316.
[2] Tel: +32 4 232 7305.

0927-5398/$ – see front matter © 2012 Elsevier B.V. All rights reserved.
http://dx.doi.org/10.1016/j.jempfin.2012.11.001

Table 1
Mutual funds summary statistics.

	Nb of funds	Mean	Median	St. dev.	Min	Max
Total	2780	0.81%	1.08%	3.90%	−16.90%	13.22%
Surviving	1570	0.87%	1.11%	3.87%	−16.86%	13.42%
Non-surviving	1210	0.71%	1.00%	4.02%	−17.28%	12.96%
AGG	544	0.99%	1.44%	5.33%	−23.13%	16.51%
LTG	1145	0.85%	1.22%	4.66%	−22.99%	15.17%
GI	540	0.81%	1.10%	3.79%	−16.84%	12.54%
I	551	0.68%	0.77%	2.05%	−10.43%	7.82%

reduce it when liquidity decreases. They find significant results indicating that mutual fund managers actually decrease their market exposure when aggregate liquidity is low supporting the idea that mutual fund managers have liquidity timing abilities.

In this context, the goal of our paper is to investigate all three forms of market timing within a single analysis and to determine whether mutual fund managers actually possess market timing ability of any kind. In addition, we propose an alternative specification for the dynamics of the market exposure of mutual funds. Rather than imposing an average market exposure to each mutual fund as in previous studies, we relax this assumption and model the change in market exposure (instead of its value) as a function of forecasted returns, volatility and liquidity. Moreover, following the approach suggested by Swinkels and Van Der Sluis (2006), we further allow mutual fund market exposure to follow a random walk in the absence of market timing ability. The same idea is applied among others by Monarcha (2009) and Bodson et al. (2010) to study hedge fund style exposures. In our context, our specification allows the existence of dynamics in market exposure and changes in investment strategies even in the absence of market timing ability. We use a Kalman filter approach to estimate the state space representation of our proposed specification.

The paper is structured as follow. We first present the data that we use in our empirical analysis. We then define the methodology that we adopt and display the results of the analysis. The last section concludes.

2. Data

2.1. Mutual funds

Mutual fund data are retrieved from the CRSP Survival Bias Free Mutual Fund Database which contains both live and dead mutual funds. We exclusively select mutual funds investing in domestic equity. Following Pastor and Stambaugh (2002), we use the Wiesenberger and Strategic Insight objective codes to classify the mutual funds into the same four broad investment strategies as Cao et al. (2011): Aggressive Growth (AGG), Long Term Growth (LTG), Growth and Income (GI) and Income (I). Mutual funds with Wiesenberger codes SCG, AGG and MCG and Strategic Insight codes AGG and SCG are classified as Aggressive Growth funds. Mutual funds with Wiesenberger codes G, G-S, S-G, GRO, LTG and Strategic Insight code GRO are classified as Long Term Growth funds. Mutual funds with Wiesenberger codes GCI, G-I, G-I-S, G-S-I, I-G, I-G-S, I-S-G, S-G-I, S-I-G, GRI and Strategic Insight code GRI are classified as Growth and Income funds. Mutual funds with Wiesenberger codes I, I-S, IEQ, ING and Strategic Insight code ING are classified as Income funds. We further exclude Exchange Traded Funds which do not make use of any market timing strategy as well as mutual funds with less than one year of returns and multiple share classes of the same fund. In addition, we impose that there is at any time at least 25 mutual funds in each fund category. As a result, our database consists of 2780 mutual funds (among which 1570 are dead funds at the end of the analyzed period) with monthly returns between January 1970 and December 2010. We create equally weighted portfolios using all the mutual funds in our dataset as well as for the four investment categories aforementioned. Descriptive statistics are reported in Table 1.

2.2. Risk factors, variance and liquidity measures

To evaluate the market timing ability of mutual fund managers, we use the asset pricing model developed by Fama and French (1992) augmented with the momentum factor of Carhart (1997). Market excess returns (MKT), risk free rates (Rf) as well as size (SMB), book-to-market (HML) and momentum (MOM) factors are retrieved from the Kenneth French's database.[3]

As our goal is to investigate mutual funds market timing from the perspectives of return, volatility and liquidity, we need market-wide indicators of volatility and liquidity. We obtain a market-wide volatility measure by applying a GARCH(1,1)[4] to the market return series and forecasting the conditional variance ($V_{m,t}$) at each time period.

As an indicator of market-wide liquidity, we use the liquidity measure proposed by Pastor and Stambaugh (2003). They measure market-wide liquidity as the average of the liquidity measure of each stock on the NYSE and AMEX. For each stock and each month, they first estimate the following equation by OLS regression:

$$r^e_{i,d+1,t} = \theta_{i,t} + \phi_{i,t} r_{i,d,t} + \gamma_{i,t} sign\left(r^e_{i,d,t}\right) * v_{i,d,t} + \in_{i,d+1,t} \quad (1)$$

[3] Kenneth French's database is available online at: http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html
[4] The choice of the specification is based on the Bayesian Information Criteria.