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DYNAMIC RELATIONSHIP AMONG INTERNATIONAL MUTUAL FUND FLOWS AND STOCK MARKET: FACTS FROM A NATURAL RESEARCH IN THE INDIAN MUTUAL FUNDS INDUSTRY

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Dynamic Relationship among International Mutual Fund Flows and Stock Market: Facts from a Natural Research in the Indian Mutual Funds Industry

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Abstract – We use mutual fund flows as a measure of individual investor sentiment for different stocks, and find that high sentiment predicts low future returns. Fund flows are dumb money–by reallocating across different mutual funds, retail investors reduce their wealth in the long run. This dumb money effect is related to the value effect: high sentiment stocks tend to be growth stocks. High sentiment also is associated with high corporate issuance, interpretable as companies increasing the supply of shares in response to investor demand.

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INTRODUCTION

The cash flows into mutual funds have generally been strongly correlated with market returns and this relationship reflects the momentum trading or feedback trading hypothesis (Davidson and Dutia (1989), Delong *et al.* (1990), Hendricks *et al*. (1993), Warther (1995), and Zheng (1999)). The hypothesis suggests that a shock to security returns leads to a change in mutual inflows, which in turn leads to a further change in security returns. It is often stated that mutual fund flows cause security returns to rise and fall and one possible reason attributed for this is the "price pressure hypothesis" (Harris *et al*. 1986; Shleifer, 1986).

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LITERATURE REVIEW

As stated above, most of the literature on new asset flows examines fund-specific flows. Early works by Warther (1995), Chevalier and Ellison (1997), and others suggest that funds with stronger past performance have higher flows. Ippolito (1992) and others demonstrate the flow-performance relationship is asymmetric in that while investors tend to invest in funds with strong past performance, they withdraw funds at a much slower rate after poor performance. Combined with Jain and Wu's (2000) evidence that recent high performing funds do not outperform in subsequent periods, this literature has led to claims of investor irrationality.

Much of recent research has focused attention on how ratings from Morningstar impact fund flows. Del Guercio and Tkac (2005) find that ratings upgrades to five stars lead to abnormally high flows. Similarly, Yankow et al. (2006) find that funds with higher ratings have significantly higher flows. Finally, Knuutila et al. (2007) find that Finnish funds with five stars have significantly higher flows than lower-rated

funds, although the result is conditional on the funds being distributed by non-bank institutions.

The analysis of how advertising impacts fund flows is a relatively new vein in the literature. Sirri and Tufano (1998) test the idea that advertising reduces search costs for investors. Consistent with this hypothesis, they find that advertising does lead to significantly higher fund flows, a result corroborated by Jain and Wu (2000), who also find that funds that advertise have strong past performance. Yankow et al. (2006) consider the content of fund advertisements, specifically examining whether it mentions past performance or not. Differentiating their tests by distribution channels, they find that funds advertising performance in the direct-market channel attract increased cash flow, while investors in the broker-sold channel increase investment in funds whether they advertise performance or not.

While most studies focus attention on flows at the fund level, Nanda et al. (2004) examine flows at the fund family level. They analyze whether fund families having highly rated funds exhibit spillover effects, in terms of additional flows, to other funds in the family. Their results support this hypothesis. Additionally, they find that the spillover effect is most valuable for fund families having funds in fewer fund categories.

Remelona *et al.,* (1997) used a similar methodology to Warther's (1995) to examine the effects of market returns on aggregate fund flows. However, the study improves upon the work of Warther (1995) in several ways. First of all, they included returns on other securities not held by the fund, as well as own returns, as determinants of unexpected flows. Further, their regression of unexpected flows into a mutual fund group on own returns and other returns was estimated using Instrumental Variables rather than Ordinary Least Squares. The result shows that unexpected equity fund flows were not affected by either contemporaneous or lagged stock returns, while the bond fund flows were affected by contemporaneous bond returns, but not by lagged bond returns.

However, the fact that fund flows and returns have a high positive correlation does not necessarily mean that the former causes the latter and vice versa. Potter (1996) used Granger causality tests to investigate the lead–lag relationship between returns and fund flows for several categories of equity funds. The result provides the evidence that stock returns can be used to predict the flows into aggressive growth funds, but the same does not apply in the case of income funds. Moreover, the result also rejects the hypothesis that the fund flows in the four fund groups lead the security returns.

Fortune (1998) used VAR models with seven variables and monthly data for the period January 1984 through December 1996 to examine the relationship between fund flows and returns. The result provided evidence of positive correlation between fund flows and contemporaneous returns. However, the results show that feedback do exists. Security returns do affect future fund flows and some fund flows do affect future security returns. Overall, the evidence on causal relationship between stock returns and mutual fund flows is mixed. The results of Fortune (1998) are in strong contrast with the conclusions of Warther, Potter, and Remelona *et al.* that flows do not appear to be affected by past security returns.

HISTORICAL PERFORMANCE AND MUTUAL FUND FLOWS

As a starting point, we consider mutual fund purchases in a world in which consumers can obtain and process information about mutual funds at zero cost. Further, we ignore differences in the quantity or quality of other services provided by mutual funds.

If consumers were prescient, they would select funds that would sub- sequently generate the highest risk-adjusted returns. However, they only have information about *past* net performance, reflecting the return, risk, and fees charged. Academics study whether this historical information can be used to predict future returns, and reach contradictory conclusions. Though the answer to this question is still the subject of much controversy, the academic literature suggests the following:

- Persistence in fund returns is observable among the lowest performing funds, i.e., poor performers repeat concludes that fund expenses have a significant impact on fund returns in general; Brown and Goetzmann Find that high fees cannot explain the persistence of the poorest performing funds.

- There is mixed support for persistence among high performers, although these results are attributed to survivorship biases. Grinblatt and Titman (1992) find evidence of repeated winners, and Ibbotson and Goetzmann (1994) find positive performance persistence as well.

- Though some studies find that funds with higher expenses have performance high enough to offset these higher fees, more recent studies find that higher-fee funds do not perform as well as lower-fee funds.

- If consumers can collect and process mutual fund information at zero cost, and if they act in accordance with these academic findings, we might expect to find:

- a performance flow relationship among the worst-performing funds, as consumers realize the likelihood that these funds may continue to perform poorly;

- an observable, but possibly weaker, performance-f low relationship among the best-

performing funds, as consumers may believe that excellent performance may repeat;

- a negative relationship between risk borne and f lows ~holding constant performance and fees!, as consumers would always prefer less risk to more, and

- a negative relationship between fees charged and f lows, ceteris paribus, reflecting consumers' elasticity of demand with respect to the price of investment management services.

MUTUAL FUND FLOWS AND COMMISSIONS

We present a simple framework to illustrate the impacts of a policy that reduces the ability of mutual fund firms to pay commissions to brokers. We consider how this policy change might affect the behavior of two stylized types of customers. We first consider customers who face high search costs on their own, and thus can only locate mutual funds with the help of a broker. In this case customers are directly influenced by the recommendations made by brokers. We show that the entry load ban could cause these types of customers to invest less in mutual funds. We also consider the behavior of customers who do not require help in choosing a fund, but have to go through a broker to execute their decision. In this case, brokers mainly serve to process the investment transaction, but do not have a causal influence on what product the customer actually chooses. In this case, it is possible that follows into funds could rise due to the entry load ban, as these customers can now avail of broker services without paying entry loads.

RELATIONSHIP BETWEEN FUND FLOWS AND MARKET INDEX RETURNS

Granger causality test in the VAR frame work is performed between returns and mutual fund flows defined as purchase, sales and net. The correct lag length is determined by using Schwarz information criteria. The results are reported in Table 6 whose columns designate the dependent, or “caused,” variables and whose rows define the independent, or “causing” variables.

The mutual fund flows defined as Purchases, Sales and Net, fails to show any significant impact on the market return. The R2 is low, however, at about 2%, which implies that flows capacity to explain the market return is only marginal.

The market return is positive and significant by its past two lags for all fund flows, while fund flows is significantly influenced by its past lags. This result implies that an increase or decrease in mutual fund flows tends to spur other mutual fund investors to act in the same direction.

CONCLUSION

This positive concurrent relationship continues to exist even after controlling for volume. In order to investigate the causal relationship between mutual fund flows and market returns, Granger causality test has been performed in the VAR framework. The statistical evidence suggests that mutual fund out flows (sales) are significantly affected by return in the equity market, however, the latter is not significantly influenced by variation in these flows. Investors in the Indian market extrapolate trends in stock price changes, and thus, after some price decrease, they anticipate further dip in stock prices and hence sell shares. Such actions, when taken by a large number of investors, would suggest that stock prices will continue to decline in future. Therefore, investor’s expectations lead them to sell mutual fund units after a decrease in stock prices, respectively (Alexakis *et al.* 2005). This suggests the negative feedback trading behavior in the Indian market. Mutual fund managers selling decisions get affected by the market returns.

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