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Price strategies in a vertically differentiated mutual fund market ☆

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ABSTRACT

Several academic studies show that mutual funds set their prices in a strategic way according to their level of quality. This study examines a market in which two vertically differentiated mutual funds compete. Their price strategies are determined for the cases with complete and incomplete information. Our results show that mutual funds prefer to set their prices sequentially and that they are then indifferent to being the first or the second mover. With incomplete information, the presence of a lower quality mutual fund compels the high quality mutual fund to set lower prices at small levels of quality difference.

1. Introduction

Many academic studies show that recent past performance of a mutual fund does not help to predict its future performance (Malkiel, 1995). It is thus difficult to appreciate its quality. Therefore, a mutual fund may be seen as an experienced good because its quality is difficult to observe before engaging with it. This uncertainty implies different price strategies for mutual funds with different levels of quality. A study by Barber et al. (2005) confirmed empirically that some investors may interpret higher prices as a signal of quality.

If quality is difficult to recognize and prices are interpreted as signals, how can we explain price strategies between mutual funds that are vertically differentiated ? This question is important and the literature stresses this lack of adequacy between performance and price. Hortaçsu and Syverson (2004) showed that identical mutual funds that are passively indexed on the S&P500 sell their shares with very different prices and coexist in the same market. Harlow and Brown (2006) tested performance and price criteria for the period 1979–2003 and showed that an optimal choice for an investor would have been to select a mutual fund with a recent higher past performance and relatively lower fees to overperform.

As mutual funds with lower performances on average charge higher fees, Berkowitz and Kotowitz (2002) wondered if this is due to a problem of governance that is internal to the mutual fund. They showed that price setting is highly strategic despite the participation of independent directors. Their empirical studies stress that the most performing funds raise their fees, but limit these increases to encourage investors to invest again. Nevertheless, the worst performing funds are also those with higher fees. From these results, authors (Gil-Bazo and Ruiz-Verdú, 2009, 2008; Christoffersen and Musto, 2002) justify reactions of the demand with the degree of investor sophistication and their performance sensitivity. In addition to performance, low performance funds tend to differentiate themselves with marketing efforts to attract non-sophisticated investors.

Revisiting Metrick and Zeckhauser (1999), this paper shows it is also possible to demonstrate this negative relation between performance and fees assuming all investors are non-sophisticated and focusing on interactions between two mutual funds with different quality. Metrick and Zeckhauser (1999) developed a sequential game model of a vertically differentiated duopoly in which quality is costly to obtain. They show that for the mutual fund industry, there exists a quantity-clearing mechanism even when prices are the same, thanks to the presence of sophisticated investors able to recognize the high quality fund. From a calculated level of quality, they demonstrate that it is more interesting for a low quality producer to separate and not to imitate the high quality producer. They chose a sequential game for which it seems natural that the high quality producer plays first. Nevertheless, Kübler and Müller (2002) note the existence of a second mover advantage in a vertically differentiated model with perfect information. Metrick and Zeckhauser (1999) considered neither a simultaneous game nor the eventuality where all investors are non-sophisticated. However, this situation is credible considering that the vast majority of investors are households and may be assumed to be non-sophisticated. So we may ask, is it always a preferred strategy to play first for the high quality fund? What are the price strategies and their consequences when every investor is non-sophisticated?

From these questions, we find non-intuitive answers. Price strategies of two vertically differentiated mutual funds within simultaneous and sequential games are compared. Our results verify indeed the preference of both mutual funds for a sequential game and the existence of a second-mover advantage. In addition to this first part, assuming the level of quality is difficult to observe and there are no sophisticated investors, we show that the low quality producer sets the same price as the high quality producer. Nevertheless, the high quality mutual fund is compelled to suggest a suboptimal price because of the existence of a low quality mutual fund, whatever the relative level of quality, and thus there exists an incentive to provide quality for the high quality mutual fund.

Following this first section as introduction, Section 2 discusses assumptions of our model and defines the characteristics of mutual funds and actors involved in this market. Section 3 provides the results of the game resolution and Section 4 concludes.

2. Model

2.1. Supply characteristics

Supply is composed of two mutual funds for which we wish to determine price strategies. The entrance of new mutual funds is excluded. Once a mutual fund is involved in this market, we exclude the possibility that it leaves.

We assume the existence of a "Nature" player that distributes different management skills to managers of both these mutual funds. Quality differences are explained by the higher probability for a