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Price competition in the mutual fund industry☆

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ABSTRACT

We find a puzzling fact about mutual fund industry that funds operating in more competitive segments charge higher fees. We argue that this surprising positive relation between competition and fund fees is consistent with strategic fee setting by funds. Fund performance is better and more persistent in less competitive segments, which attracts relatively more performance-sensitive investors. This leaves relatively less performance-sensitive investors in more competitive markets. Hence, funds operating in more competitive markets face a relatively inelastic demand curve and take advantage of it by increasing their fees (which reduces investors' net returns). Our findings have important policy implications that market competition on its own may not be sufficient to decrease fund fees and regulatory interventions are required to increase investor awareness of mutual fund fees and their adverse impacts on net fund performance.

1. Introduction

The mutual fund industry has grown very large over the last few decades. As of 2016, close to 56 million American households (about 96 million individuals) invested a total of $16.3 trillion in US-registered mutual funds, with a median household investment of about $125,000.[1] The mutual fund industry plays a key role in the economy. It manages savings and pensions of millions of people, and makes investment decisions which have important implications for investors' financial wellbeing. It promises superior returns in exchange for an annual fee.[2] However, investors bear almost all the portfolio risks and these annual fees adversely affect their returns. Hence, it is important to study if the investors pay excessive fees for the services they receive.

The USA mutual fund industry is one of the most regulated industries in the world, and yet, fund fees are typically set by the management companies themselves. This implies that investors rely on market competition to keep these fees low. However, there is an ongoing debate on the effectiveness of fund market competition in protecting the interests of small investors.

Historical data suggests that despite the growing economy of scale and competition, average fund fees have not decreased. The financial service sector has grown from 4.9% of the GDP in 1980 to 7.2% in 2015. A significant share of this growth has come from the increase in the asset management fees. Over this period the assets under management have increased rapidly. In 1980, the total assets under management of equity funds was less than $26 billion; in 2016 the number grew to $6.86 trillion (domestic equity only) - a 264 times increase. Notwithstanding this enormous economy of scale, the asset-weighted expense ratio has in fact increased from 66 basis points in 1980 to 82 basis points in 2016. The equal-weighted expense ratio in 2016 was higher at 1.28%. Expressed as a percentage, the fees do not appear that significant. However, assuming an average market return of 7% a year, the 1.28% accounts for a substantial 18.3% of the market return (See Malkiel (2013)). This increase in fees of the actively managed funds can be justified if funds outperform their respective benchmarks or at least the low-cost index funds. On the contrary, academic research suggests that actively managed funds with higher fees tend to underperform the market as well as low-cost index funds (Gil-Bazo and Ruiz-Verdu (2009); Ferreira et al. (2013); Vidal et al. (2015)). These research findings are corroborated by a recent regulatory report on the UK asset management industry (see FCA Report (2017)).

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[1] See Investment Company Institute (2017). This growth is not limited to the USA alone. As of 2016, the UK asset management industry, the second largest in the world, managed about £6.9 trillion of assets (see FCA Report (2017)) and the total asset under management of regulated open-ended funds worldwide was about $44.5 trillion.

[2] In addition to other transaction fees such as front load fees.

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Since fund fees are set by fund management companies themselves, one would assume that fund fees would decrease with the level of competition. Coates and Hubbard (2007) argue that "the mutual fund industry is a classic, competitively structured industry, with hundreds of competing firms offering thousands of products, low barriers to entry and firm expansion, and low concentration." Various reports from the Investment Company Institute ((2010), (2014) etc.) emphasize that fund expense ratios are continuously decreasing and the economy of scale from the huge recent growth in the assets under management is being passed on to small investors. Others claim that market competition is not enough to significantly influence fund fees. The United States General Accounting office ((2000) [3], (2003) [4]) argues that "although hundreds of fund advisers offering thousands of mutual funds compete actively for investor dollars, their competition is not primarily focused on the fees." Freeman and Brown (2001) claim that fund management companies pass few of the savings accruing from economies of scale to their clients. There have been many lawsuits alleging that fund trustees breached their fiduciary duties towards retail investors by approving excessive fees (see Murphy (2005)). In his recent annual letter to Berkshire Hathaway shareholders, Warren Buffett wrote: "when trillions of dollars are managed by Wall Streeters charging high fees, it will usually be the managers who reap outsized profits, not the clients." Thus, it is not clear whether the mutual fund market is price competitive or not.

In this paper, we take the negative of the style-market Herfindahl-Hirschman index as a proxy for market competition and study its impact on fund fees. If the market is price competitive, we should find a negative relation between competition and fund fees.[5] Using a sample of US domestic equity funds from 2000 to 2015, we find a rather surprising result: funds operating in more competitive market segments charge significantly higher annual expense ratios than funds operating in less competitive market segments. This finding is robust in different econometric models and withstands various other robustness tests. In addition, we find that front load fees, the one-time commission paid by investors on purchase of fund shares, are positively associated (though insignificantly) with competition. This suggests that the total cost of fund ownership (the load fees plus the annual expense ratios) is increasing with competition, i.e., fund managers are not competing on price.

Next, we study the channels behind this surprising positive relation between competition and expense ratio. We study the impact of competition on the three major components of annual expense ratios: 1. investment advisory fees, also called management fee; 2. marketing and distribution expenses, captured by 12b1 fee; and 3. other fees, which comprises of brokerage, custodial, transfer agency, legal, and accountants' fees etc.[6] It is possible that funds operating in more competitive markets incur higher costs of operations and pass these costs on to investors as higher annual expense ratios. For example, funds may have to spend more money on marketing and distribution activities to stay competitive. Contrary to this view, we find that funds decrease 12b1 fees as well as other fees (though not significantly) when they operate in high competition market segments.

On further examination, we find that the positive relation between competition and expense ratio is solely driven by significant increase in management fees with competition. We consider two plausible explanations. First, it is possible that funds operating in more competitive markets offer higher compensation to attract skilled managers, spend more on research and development activities, and pass on these additional expenses to shareholders in the form of higher management fee, which increases the expense ratio. If this cost based hypothesis is true, larger funds should take advantage of the economy of scale, and their fees should be less positively associated with competition. However, we find evidence to the contrary: fees for the larger funds exhibit an even stronger positive relation with competition. These results suggest that the higher expense ratios in more competitive markets are not likely caused by higher costs of fund operations in those markets.

We then explore if there is a strategic explanation on why fees should go up with competition. Christoffersen and Musto (2002) find that mutual funds that face a relatively inelastic demand curve charge higher fees. They argue that funds with worse past performance face a relatively inelastic demand curve and charge higher fees as performance-sensitive investors leave these funds following bad performance. Pastor, Stambaugh and Taylor (2015) find that fund performance decreases with the level of industry competition. Their hypothesis is motivated by liquidity constraints- "in a more crowded industry, there are likely to be more active funds chasing the same investment opportunities and pushing prices in the same direction." Using a sample of mutual funds in the UK, Keswani and Stolin (2006) find that fund performance is less persistent in more competitive segments. We follow their methodology and find similar results using our US sample. Together, these findings support the narrative that fund performance and performance persistence decrease in more competitive markets and this drives performance sensitive investors away, leaving behind relatively less performance sensitive investors in the more competitive segments. Hence, fund managers operating in more competitive segments take advantage of it by increasing management fees. We further test this strategic fee setting hypothesis against the alternative cost-based hypothesis and find evidence in support of the former.

Our paper contributes to the literature in several aspects. First, to the best of our knowledge, it is the first paper to establish a direct link between market competition and mutual fund fees and thus adds to a growing literature on fund market competition (Coates and Hubbard (2007), Freeman and Brown (2001), Murphy (2005), Pastor et al. (2015) etc.). Furthermore, by suggesting that market competition on its own may not be sufficient to decrease funds fees, our study has important policy implications that regulatory interventions targeted at encouraging competition or lowering entry barriers may not be able to bring down the fund fees; whereas interventions targeted at making small investors more aware of the fund fees may help as it will make them more sensitive towards net performance of asset management funds.

Second, our paper adds to the earlier works on determinants of mutual fund fees such as Malhotra and McLeod (1997), Christoffersen and Musto (2002), Barber et al. (2005), Gil-Bazo and Ruiz-Verdu (2008), Khorana et al. (2009), and Han et al. (2013). The paper closest to ours is Gil-Bazo and Ruiz-Verdu (2009). They find a negative relation between before-fee performance and fund fees and argue that it is an outcome of strategic fee setting by mutual funds in the presence of investors with different degrees of sensitivity to performance: low-performing funds charge higher fees to the relatively less sophisticated, less performance sensitive investors. Our findings are similar- funds strategically increase fees in high competition markets in the presence of relatively less performance sensitive investors.

Third, our paper also sheds some light on how competition adversely affects fund performance persistence in the US fund market. Our findings echo an UK study by Keswani and Stolin (2006), and adds to a long list of earlier works on performance persistence such as Brown and Goetzmann (1995), Carhart (1997), Ibbotson and Patel (2002), Teo and Woo (2001), Wermers (2003) and Vidal-Garcia et al. (2016).

Our analysis is at the fund style class level and hence, one concern is that our results may be driven by omitted variables which are specific to style classes. To address this, we include relevant style-class level control variables, and our results are robust. In addition, our results survive a fund fixed effects model, though the effect of competition on fees becomes less pronounced. The weaker effect found in the fixed effect model

[3] Report to the Chairman, Subcommittee on Finance and Hazardous Materials; and the Ranking Member, Committee on Commerce, House of Representatives, June 2000.

[4] Testimony before the subcommittee on Capital Markets, Insurance and Government Sponsored Enterprises, Committee on Financial Services, House of Representatives.

[5] Mutual fund fees are generally of two types −1. fees that reflect costs incurred in a particular transaction such as front load fee and 2. fees that reflect recurring fund operating costs such annual expense ratios.

[6] More details can be found on the SEC website (https://www.sec.gov/fast-answers/answersmffeeshtm.html).