Management fees and portfolio performance: Who can charge higher Portfolio Management Fees and Why?

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Abstract

This paper re-examines the relationship between management fees and portfolio performance. We take a different approach, rather than asking if the manager earns his/her fee, but rather what fund characteristics/attributes can allow a manager to charge a higher fee.

We find as others have that management fee significantly impacts return. However, our results indicate that managers who “push the envelope” are able to charge higher fees than those who take the middle ground, regardless of whether their performance is good or bad.

Introduction

The equilibrium model of Grossman and Stiglitz (1980) described an informationally efficient market in which both informed and uninformed investors play important roles. Market participants with better information are expected to benefit at the expense of uninformed investors. Informed investors are thus expected to earn higher gross returns but incur more expenses due to acquiring costly information. In equilibrium, both investor groups can expect to earn the same returns net of expenses.

According to Grossman and Stiglitz, money managers’ charge fees for acquiring and analyzing information about companies and should earn higher gross returns than individual investors. However, some managers earn higher risk adjusted returns than individual investors. The superior managers may be more informed than other managers, or they may be more efficient in processing information. If the superior performance is due to being more informed, then we would expect higher expenses as information processing is costly. On the other hand, if superior performance is due to more efficient processing of information, then we would expect no difference in expenses relative to other managers.1

[1] Dellva and Olson (1998) argue that more informationally efficient funds may also be more efficient in their operations, and thus may be able to lower their expenses while at the same time providing higher risk adjusted returns.

The empirical literature on active portfolio management has focused almost exclusively on examining mutual funds and has generally found conflicting results. On the one hand, Jensen (1968), Malkiel (1995), Gruber (1996), and Carhart (1997) find that active managers fail to outperform passive benchmark portfolios and in many cases underperform passive indices, even before accounting for expenses and transactions costs. Ippolito (1989) shows that management fees are adequate compensation to managers for the cost of information, and just offset superior performance. On the hand, Griblatt and Titman (1989, 1993), Griblatt , Titman and Wermers (1995), and Daniel et al. (1997) find that active managers do exhibit some stock-picking talent. The main difference between these two sets of studies is that the first group examines net returns of funds for the entire portfolio, while the second set of papers examine individual equity holdings of funds without accounting for expenses and transactions costs.

Wermers (2000) reconciles these differences in a comprehensive study on the performance of equity mutual funds over the period 1975-1994, taking into account both transactions costs and fund expenses. He finds that funds hold stocks that outperform the market by 1.3 percent per year, but that their net returns underperforms the market by one percent. Of the 2.3 percent difference between net and gross returns, Wermers estimates that 0.7 percent is due to the underperformance of non-stock holdings, whereas 1.6 percent is due to expenses and transactions costs. Thus, he argues that funds pick stocks well enough to cover their costs, which is enough evidence to support the value of active mutual fund management.

This paper re-examines the relationship between management fees and portfolio performance, specifically modeling the fee, rather than examining post-fee return. Further, we break this down by how investors are reacting to different managers.

Our work is uniquely different from previous research due to the following three important aspects of our data:

For every fund, we consider performance in excess of that fund's specific benchmark, when they have a stated benchmark, and a proxy or raw return when the do not. Lehman and Modest (1987) suggest that performance results are very sensitive to the benchmark used. If a fund using, say, the Russell 2000 Growth Index is evaluated using the S&P 500, the researcher is likely to find significant alphas over any period studied. The majority of previous studies have used the S&P 500 as the benchmark for all funds.

We use reported explicit fees for each fund, rather than policy expense ratios. Expense ratios are often averaged across a class of funds within a family of funds.

We have a much larger sample, covering nearly 3000 funds in Australia and New Zealand, compared to 400 or less used by most other studies on the subject.

Management Fees

Haslem, Baker, and Smith (2006) find that there are large and significant differences in expense ratios among S&P500 Index Funds. They conclude that mutual fund expense ratios are higher than they would be in competitive markets. They argue that the market for funds lacks sufficient price competition to force expenses downward, especially as funds get larger and economies of scale and scope grow.

Fees for Australia and New Zealand as reported in Morningstar are MER (Management Expense ratios) and ICR (Indirect Cost ratio). During our sample period, Australia changed from requiring MER to ICR, so we account for that, using the "best" metric for any given quarter.

Methodology and Results

First we estimate regressions separately for each of the on top, mid and bottom quintile performers.

Equation 1

$$Expenses_{i,t} = \beta_0 + \beta_1 LnSize_{i,t-1} + \beta_2 LnAge_{i,t-1} + \beta_3 TopActive_{i,t-1}$$

Where TopActive is a dummy for a fund in the Top Quintile of performance; we do this also for the Mid and Bottom quintiles.

The expectation is that the top performing fund would be able to charge higher fees. What we find instead (Table 1) is that both top and bottom funds do so, while the middle 3 quintiles actually have lower fees. The implication of this is that managers who "push the envelope" are rewarded with higher fees, regardless of performance.

However, there are certainly other issues going on.

We next explore other possible issues: previous performance and flow.

To capture a possible 'persistence' effect, to equation (1), we add dummies for the period prior – lag 2, again for each of Top, Mid and Bottom Quintiles:

Equation 2

$$Expenses_{i,t} = \beta_0 + \beta_1 LnSize_{i,t-1} + \beta_2 LnAge_{i,t-1} + \beta_3 TopActive_{i,t-1} + \beta_4 TopActive_{i,t-2} + \beta_5 BotActive_{i,t-2}$$

Adding previous (lag2) top and bottom quintile dummies, the relationship between Expenses and performance is unchanged – Top and Bottom performers have higher fees and mid-performers have lower fees (Table 2).

Next, to determine if expenses are related to previous flow (a manager with high flow can get away with higher fees), we add lagged flow to equation (1):

Equation 3

$$Expenses_{i,t} = \beta_0 + \beta_1 LnSize_{i,t-1} + \beta_2 LnAge_{i,t-1} + \beta_3 TopActive_{i,t-1} + \beta_4 Flow_{i,t-1}$$

And, again with the same result (Table 3). We still find both top and bottom performing funds can charge higher fees.

Endogeneity

Obviously, one major issue we have yet to address is endogeneity, and for that we will use a Heckman ‘two-step’ procedure; but first we must determine the ‘treatment’ equation, by exploring the relationship between performance, fees, size and age.

As each of the Quintile ranks are dummies (for Top, Mid and Bottom performance) standard OLS is not appropriate, so we use Probit:

Equation 4

$$Prob\left(TopActive_{it}\right) = \beta_0 + \beta_1 TopActive_{i,t-1} + \beta_2 BotActive_{i,t-1} + \beta_3 TE_{i,t-1} + \beta_4 Expense_{i,t-1} + \beta_5 LnAge_{i,t-1} + \beta_6 LnSize_{i,t-1}$$

Our result confirms as expected that performance in any Quintile is significantly impacted by previous performance, SE, expenses, age and size (Table 4).

So, we will use this as the treatment in our main regressions for the equations of interest – are top (or bottom) managers able to charge higher fees? As before, we address each manager Quintile separately.

When we put all together in the Heckman procedure[2], we find that all 3 categories have the same relationship – Top and Bottom quintile managers are able to charge higher fees than mid-quintile performers, even after controlling for endogeneity (Table 5).

Finally, in case "taking out the benchmark" is somehow impacting our results, we re-estimate the two-step Heckman equations, using raw returns instead of active, and obtain the same results (Table 6).

Summary

Managers who have superior performance can charge higher fees than "middle-of-the-road" managers, controlling for size, age and past performance. This is no surprise.

However, managers who have bottom quintile performance can also charge higher fees. This is unexpected, and suggests that managers who go out on a limb are more likely to be rewarded than those who play it safe.

This result is robust to controlling for endogeneity. Further, this result obtains whether measuring performance with active returns or raw returns.

[2] The STAT equation looks like: treatreg exp lg1_lnsize lg1_lnage, treat(lg1_d_actRetTop = lg2_d_actRetTop lg2_d_actRetBot lg2_TE lg2_exp lg2_lnage lg2_lnsize) twostep

Tables

Table 1 Panel A: Exp on lagged size, age, and Top quintile

Exp	***Coef.***	***Std. Err.***	***t***
Size_Lag1	-0.1	0.0	-128.0
Age_Lag1	0.0	0.0	14.4
TopActve_D_Lag1	0.0	0.0	***<u>10.8</u>***
_cons	3.4	0.0	166.3
N	85,298.0		
R2	0.2		

Table 1 Panel B: Exp on lagged size, age, and Mid 3 quintiles

Exp	***Coef.***	***t***
Size_Lag1	-0.1	-127.9
Age_Lag1	0.0	15.1
MidActve_D_Lag1	0.0	***<u>-48.8</u>***
_cons	3.5	171.3
N	85,298.0	
R2	0.2	

Table 1 Panel C: Exp on lagged size, age, and Bottom quintile

Exp	***Coef.***	***t***
Size_Lag1	-0.1	-128.6
Age_Lag1	0.0	14.1
BotActve_D_Lag1	0.2	***<u>45.3</u>***
_cons	3.4	166.3
N	85,298.0	
R2	0.2	

Table 2 Panel A: add previous (lag2) top and bot rank, for size, age, and Top quintile

Exp	*Coef.*	*t*
Size_Lag1	-0.1	-127.9
Age_Lag1	0.0	14.4
TopActve_D_Lag1	0.0	***10.6***
TopActve_D_Lag2	0.1	20.2
BotActve_D_Lag2	0.2	51.2
_cons	3.3	162.6
N	85,246.0	
R2	0.2	

Table 2 Panel B: add previous (lag2) top and bot rank, for size, age, and Mid quintiles

Exp	*Coef.*	*t*
Size_Lag1	-0.1	-128.0
Age_Lag1	0.0	14.8
MidActve_D_Lag1	-0.1	***-32.7***
TopActve_D_Lag2	0.1	17.5
BotActve_D_Lag2	0.1	37.3
_cons	3.4	166.6
N	85,246.0	
R2	0.2	

Table 2 Panel C: add previous (lag2) top and bot rank, for size, age, and Bottom quintile

Exp	*Coef.*	*t*
Size_Lag1	-0.1	-128.5
Age_Lag1	0.0	14.6
BotActve_D_Lag1	0.1	***31.1***
TopActve_D_Lag2	0.1	33.7
BotActve_D_Lag2	0.1	29.0
_cons	3.3	162.6
N	85,246.0	
R2	0.2	

Table 3 Panel A: Exp on lagged size, age, top quintile, and Flow

Exp	***Coef.***	***t***
Size_Lag1	-0.1	-131.9
Age_Lag1	0.0	8.1
TopActve_D_Lag1	0.1	***15.5***
Flow_Lag1	0.1	-23.0
_cons	3.6	170.1
N	82,856.0	
R2	0.2	

Table 3 Panel B: Exp on lagged size, age, mid quintiles, and Flow

Exp	***Coef.***	***t***
Size_Lag1	-0.1	-131.9
Age_Lag1	0.0	8.8
MidActve_D_Lag1	-0.2	***-49.3***
Flow_Lag1	0.0	-22.1
_cons	3.7	175.0
N	82,856.0	
R2	0.2	

Table 3 Panel C: Exp on lagged size, age, bottom quintile, and Flow

Exp	***Coef.***	***t***
Size_Lag1	-0.1	-131.8
Age_Lag1	0.0	8.9
BotActve_D_Lag1	0.2	***41.6***
Flow_Lag1	0.0	-15.1
_cons	3.6	168.4
N	82,856.0	
R2	0.2	

Table 4 Panel A : establish 'treatment' equation for top quintile

TopActve_D_Lag1	*Coef.*	*Std. Err.*	*z*
TopActve_D_Lag2	1.3	0.0	112.4
BotActve_D_Lag2	-0.9	0.0	-46.9
Actve_SE_Lag2	0.3	0.0	40.0
Exp_Lag2	0.0	0.0	-2.4
Age_Lag2	0.0	0.0	1.3
Size_Lag2	0.0	0.0	-6.3
_cons	-1.0	0.1	-12.9
N	84,962.0		
Pseudo R2	0.3		

Table 4 Panel B : establish 'treatment' equation for mid quintiles

MidActve_D_Lag1	*Coef.*	*Std. Err.*	*z*
TopActve_D_Lag2	-0.9	0.0	-74.6
BotActve_D_Lag2	-0.9	0.0	-77.4
Actve_SE_Lag2	-0.4	0.0	-53.3
Exp_Lag2	-0.2	0.0	-16.0
Age_Lag2	0.0	0.0	0.9
Size_Lag2	0.0	0.0	-2.7
_cons	1.2	0.1	18.9
N	84,962.0		
Pseudo R2	0.1		

Table 4 Panel C: : establish 'treatment' equation for bottom quintile

BotActve_D_Lag1	Coef.	Std. Err.	z
TopActve_D_Lag2	-1.0	0.0	-52.1
BotActve_D_Lag2	1.3	0.0	109.9
Actve_SE_Lag2	0.3	0.0	31.3
Exp_Lag2	0.3	0.0	23.0
Age_Lag2	0.0	0.0	-1.8
Size_Lag2	0.0	0.0	9.9
_cons	-2.2	0.1	-28.3
N	84,962.0		
Pseudo R2	0.3		

Table 5 Panel A: address endogeneity for top quintile

	Coef.	z
Exp		
Size_Lag1	-0.1	-126.6
Age_Lag1	0.0	14.0
TopActve_D_Lag1	0.1	17.4
_cons	0.1	162.8
TopActve_D_Lag1		
TopActve_D_Lag2	1.3	112.4
BotActve_D_Lag2	-0.9	-46.9
Actve_SE_Lag2	0.3	40.0
Exp_Lag2	0.0	-2.4
Age_Lag2	0.0	1.3
Size_Lag2	0.0	-6.3
_cons	0.0	-12.9
hazard		
lambda	-0.1	-13.8
rho	-0.1	
sigma	0.5	
N	84,962.0	

Table 5 Panel B: address endogeneity for mid quintiles

	Coef.	z
Exp		
Size_Lag1	-0.1	-97.2
Age_Lag1	0.0	14.3
MidActve_D_Lag1	-0.8	***-90.6***
_cons	3.6	145.3
MidActve_D_Lag1		
TopActve_D_Lag2	-0.9	-74.6
BotActve_D_Lag2	-0.9	-77.4
Actve_SE_Lag2	-0.4	-53.3
Exp_Lag2	-0.2	-16.0
Age_Lag2	0.0	0.9
Size_Lag2	0.0	-2.7
_cons	1.2	18.9
hazard		
lambda	0.5	85.5
rho	0.9	
sigma	0.6	
N	84,962.0	

Table 5 Panel C: address endogeneity for bottom quintile

		Coef.	z
Exp			
	Size_Lag1	-0.1	-120.8
	Age_Lag1	0.0	12.3
	BotActve_D_Lag1	0.5	***76.0***
	_cons	3.3	152.3
BotActve_D_Lag1			
	TopActve_D_Lag2	-1.0	-52.1
	BotActve_D_Lag2	1.3	109.9
	Actve_SE_Lag2	0.3	31.3
	Exp_Lag2	0.3	23.0
	Age_Lag2	0.0	-1.8
	Size_Lag2	0.0	9.9
	_cons	-2.2	-28.3
hazard			
	lambda	-0.3	-65.3
	rho	-0.6	
	sigma	0.5	
	N	84,962.0	

Table 6 Panel A: address endogeneity for top quintile, using Raw returns rather than active

Treatment-effects model -- two-step estimates

		Coef.	z
Exp			
	Size_Lag1	-0.1	-139.7
	Age_Lag1	0.0	9.1
	TopRwRet_D_Lag1	0.0	***3.0***
	_cons	3.6	180.9
TopRwRet_D_Lag1			
	TopRwRet_D_Lag2	1.3	121.3
	BotRwRet_D_Lag2	-0.6	-39.2
	RwRet_SE_Lag2	0.0	8.7
	Exp_Lag2	0.0	2.2
	Age_Lag2	0.0	-2.0
	Size_Lag2	0.0	-8.2
	_cons	-0.6	-8.2
hazard			
	lambda	0.0	-2.0
	rho	0.0	
	sigma	0.5	
	N	92,480.0	

Table 6 Panel B: address endogeneity for mid quintiles, using Raw returns rather than active

Treatment-effects model -- two-step estimates

	Coef.	*z*
Exp		
Size_Lag1	-0.1	-113.2
Age_Lag1	0.0	8.8
MidRwRet_D_Lag1	-0.6	***-58.2***
_cons	3.8	164.8
MidRwRet_D_Lag1		
TopRwRet_D_Lag2	-0.9	-83.4
BotRwRet_D_Lag2	-0.8	-78.2
RwRet_SE_Lag2	0.0	-8.2
Exp_Lag2	-0.1	-16.0
Age_Lag2	0.0	1.9
Size_Lag2	0.0	3.0
_cons	0.5	8.3
hazard		
lambda	0.4	55.6
rho	0.7	
sigma	0.5	
N	92,480.0	

Table 6 Panel C: address endogeneity for bottom quintile, using Raw returns rather than active

Treatment-effects model -- two-step estimates

	Coef.	*z*
Exp		
Size_Lag1	-0.1	-133.4
Age_Lag1	0.0	8.5
BotRwRet_D_Lag1	0.4	***48.7***
_cons	3.5	170.1
BotRwRet_D_Lag1		
TopRwRet_D_Lag2	-0.8	-49.3
BotRwRet_D_Lag2	1.2	108.5
RwRet_SE_Lag2	0.0	2.6
Exp_Lag2	0.2	18.2
Age_Lag2	0.0	-0.4
Size_Lag2	0.0	4.4
_cons	-1.5	-20.4
hazard		
lambda	-0.2	-43.1
rho	-0.4	
sigma	0.5	
N	92,480.0	

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