FUNDS INDUCTION, FLOWS AND FAMILY GROWTH: THE DYNAMICS OF ASSET MANAGEMENT COMPANIES

Ather Iqbal[1], Abdur Rahman Aleemi[2], Muhammad Zeeshan[3] and Muhammad Tariq[4]

Abstract

Assets Management Companies (AMCs) strive to channel and pool savings and invest these in well diversified portfolios in an optimal way. The size of these portfolios is closely related to their Assets under Management (AUM). This study in particular examined the effects of fund sizes—mainly the induction of new funds and the increase in existing funds, managed by AMCs on their AUM for the mutual fund industry of Pakistan. Furthermore, we assessed that whether Fund Family growth has any effect on individual fund. We examined a total of 180 open ended Mutual funds, managed by 18 AMCs over the period of July-2009 to most recent July-2016. The main findings suggests that both existing and new fund size are having positive and significant impact on AUM and also the growth of fund is strongly associated with Family growth. It was further observed that those AMCs who introduced new funds during this period, were managing relatively large assets as compared to those who introduced small amount of new funds or did not inducted any new fund at all during the period under consideration.

Keywords: Mutual Funds, Assets Under Management, Fund Sizes, Funds Induction, Fund Family Growth.

JEL Classification: G200

Introduction

Around $26.8 trillion assets are under the management of mutual fund industry in various financial markets which is one of the basic investment vehicle for households and retired people in many countries across the world (Brown, & Wu, 2016).Assets Management Companies (AMCs) are pivotal to mobilize, channel and optimally allocate the savings of both individuals and institutional investors by investing in a variety of financial instruments of capital markets and money markets like stocks and bonds and other combinations (Nazir & Nawaz, 2010; Lai, 2016).

[1] Assistant Professor, Iqra University, Karachi, Pakistan. Email: athar@iqra.edu.pk
[2] Senior Faculty, Institute of Business Management (IoBM), Karachi, Pakistan. Email: abdur.rahman@iobm.edu.pk
[3] Adjunct Faculty, Iqra University, Karachi, Pakistan. Email: zeeshan.arif81@gmail.com
[4] Faculty, Institute of Business Management (IoBM), Karachi, Pakistan. Email: m.tariq@iobm.edu.pk

Primarily AMCs play the role of pooling savings and investing in well-diversified portfolios and secondarily AMCs help the investors in terms when investors are relatively less informed, have very little knowledge of investment climate and has very little tolerance or appetite for risk. Afza and Rauf (2009), characterizes this second function of AMCs that is to provide an indirect mode of low risk investment to be essentially the most important—particularly for a country like Pakistan.

In Pakistan, National Investment (Unit) Trust (NIT) was the first open-ended mutual fund which was introduced in 1962. Later on, Investment Corporation of Pakistan (ICP) was established in 1966, which launched a series of closed-end funds and as a result, by 1990s there were twenty six closed-end funds operating in the country. Initially both public and private sectors were participating in managing these funds, however after nationalization, in 1970s, the government performed more dominantly and allowed private sector to introduce private mutual funds products as well (Shah & Hijazi, 2005). In Pakistan, this multi billion rupees industry of mutual funds is managed under the trade body of 'Mutual Funds Association of Pakistan' (MUFAP) with lots of investment options for managing and rolling the money such as government securities, stocks, money market instruments, bonds and bank deposits. The association of MUFAP was established in 1996 and incorporated formally in 2001, limited by guarantee without share capital as a public company, licensed by Ministry of Commerce. The responsibilities of MUFAP include; ensuring optimal industry growth, high ethical conducts and transparency. However another body of 'Corporate Law Authority' was also monitoring the industry under securities wing which was gradually transformed to become the Securities and Exchange Commission of Pakistan as an independent organization based on the decision of Asian development bank as part of the Capital Market Development Program.

The establishment of MUFAP allowed private and foreign companies to offer general public a variety of open-ended funds; as a result, stock market performed well on new heights and registered 15 times growth in terms of net assets during the period of 2000-2008. The annual compounded growth rate grew at 14.45% from 2004 to 2013 in terms of mutual funds and the net assets grew from Rs. 93.82bn in 2004 to Rs. 335.23bn in 2008. However, in 2008, when financial industry collapsed worldwide, this industry also faced huge losses nearly by half of its net assets i.e. Rs. 182.36bn till 2009. However the industry picked up growth once again in the year 2010 and reached to the level of Rs. 361.67 bn till June 2013[4].

To boost the size of Assets under Management (AUM), AMCs occasionally launch new funds by injecting large amount of funds by introducing new and attractive fund (s) packages to general public and corporate sector. However at the same time, AMCs also strive to increase the size of the total net assets under management in order to augment the existing base or the fund size. Furthermore, high costs and extensive time is required by the AMCs for introduction of new funds and to make them attractive and to correspond with regulatory bodies is a challenging task at hand. Hence this

4 The information is available on the official website of the MUFAP on http://www.mufap.com.pk.

study is an attempt to identify whether the induction of new funds is more attractive decision of AMCs for the purpose to increase the total net assets or to focus on to increase and broaden the existing funds size (s)? In addition, we also assessed the breadth effects of fund family growth on the growth on individual fund which is the main departure of this study and makes it unique. Moreover this study is a pioneering work in the case of Pakistan to the best of our knowledge and is significant in the sense that it will not only lead AMCs to make rational and prudent decisions about inducting new funds but will also provide insights to save time and resources if the result is not potentially advantageous and profitable. And thus this study will particularly answer the question that whether new funds induction contribute more to the growth of AMCs or increasing the size of existing funds contribute more to the same? Furthermore, we contribute to the existing literature of mutual fund family in Pakistan by adding new dynamics of family growth effects at family level and the relevance of breadth effects at individual levels of mutual funds.

The rest of this paper proceeds as follows; the next section provides a brief survey of contemporary literature, section 3 discusses the methodology whereas the results are presented in section 4 and finally section five concludes.

Literature Review

This section breifly focusses on contemporary literature on the funds sizes and AUM of AMCs whereby an extensive body of literature exists, however the most relevent and closeset reference comes from that of Pollet and Wilson (2008) and Lai (2016) who suggested that typical fund behavior is slightly affected by assets growth. They concluded that small and large cap funds diversify their investment portfolios in response to growth where the higher the rate of diversification the better the performance would be. It has also been suggested that introducing new funds instead of expanding the size of existing fund has positive effect on the growth of mutual fund families.

Similarly, the size and induction of new funds are also important in the sense that when more funds are injected, it becomes relatively more attractive for investors (Lai, 2016; Bessler et al., 2016). However Beckers and Vaughan (2001) presented an alternative and rather contrasting outlook and examined to reflect some light on fund size as a potential investment performance detractor. They quantify the effects and significance of funds sizes on performance and identify that performance becomes a drag and self defeating by charging excessive monies to their customers. Hence on average mutual funds underperforms the market. They also argued that more aggressive strategy leads to dramatic impact due to the significant growth in AUM. However Beckers and Vughan also reported that there is no such thing as optimal fund size and that the potential to add value invariably drops as a fund grows, resulting in the loss in effeciency. The same idea has been echoed and recocheted by Gruber (1996) and Cvijanović et al. (2016), who also argued that mutual funds in many cases develop business relationships with blockholders in their portfolios and explored that whether business relations has any significance on the decision to include or exclude such firms in their portfolios.

Similarly, Zheng (1999) posed a serious question that despite inferior performance, mutual funds have grown so fast. However, they provided evidence that funds in which large amount is injected by investors subsequently perform better significantly then those funds which do not get focus of investors and lose money. However this effect is brief and is mostly but partially explained by winners betting strategy. They also concluded that there is as such insignificant evidence that funds which were found attractive to investors and receive investments, subsequently beat the market possibly by the use of small funds cash flows. On the other hand, (Elton et al., 2007; Christoffersen et al., 2014) echoed that investors should invest in different families rather at individual family irrespective of size due to similarity in managers' economic outlook. Similarly, (Khorana & Servaes, 1999; Lai, 2016) while studying the decision making process within family, found that families larger in size and those who introduced funds in larger numbers usually get more attention by offering new funds. However they didn't find any support that whether introducing new funds are due to poor performance of existing ones. However Brown and Wu (2016) found high correlation in same family fund irrestpective of its size and pointed out towards the benefits of investing in low correlation diversified mutual fund families.

An interesting proposition by Gruber (1996) examined that in the United States mutual funds has shown outstanding growth and is rapidly growing as a financial intermediary. However the question is why? Despite the fact that when index funds have shown lower performance on average. However some possible reasons could be that funds are bought and sold at net asset value without further consideration regarding the managament abilities which if not included in pricing-renders the performance unpredictable. Performance can be predictable only if the abilities of management are ignored. To this, Christoffersen et al. (2014), Choi et al. (2016) observed that intuitively investors relate future performance with past performance trend. Similarly, on a very unorthodox note and utilizing a novel approach, Cooper et al. (2005) examined the effects of name changing by mutual funds to take advantage of current investment styles. The study further analyzed that whether a mere name change commensurate with current investment styles lead to any effects in inflows to the fund and resultantly in fund's returns. Utilizing Fama-French three –factor alpha, interestingly they found that on average funds experienced 28% cumulative abnormal flows in the year after changing the name of funds for the purpose to get the refelection of hot styles prevailing in the current business atmosphere. However no evidence of improvement in the performance was ascertained. This irrational influence on investors is on the basis of cosmatic effects, as the inflow status is similar in the same pattern style, but not in those funds which are different than the current hot styles. As a corollary, Lai (2016) argued that mutual funds are usually amassed by their investment aims or the 'style' of their managers. A new simple, though, non-linear empirical approach is proposed to determine the manager 'style', which is found to be superior to common industry classification. On a similar theme, Barberis and Shleifer (2003) examined the categorization of risky assets into different styles by some investors and based on relative performance moves in these styles. When these movements are too much, the correlation increases with style when assets are reclassified. It is also pointed that returns of these styles show relatively large of own- and cross-autocorrelations and that profitability is there

with value strategies and asset-level momentum. Chan et al. (2016) showed significant negative relation between performance-adjusted net flow growth and risk taking tendency.

Likewise several others have tried to develop various empirical models like Choi et al. (2016), Bessler et al. (2016). However to conserve space, we hereby take only a couple of examples, for instance, Obstfeld (1994) developed a continuous-time stochastic model in which international risk-sharing can yeild extensive beneficial advantages. Hugonnier and Kaniel (2010) analyzed the effects of forceful ins and outs on the decisions of mutual funds portfolios. In their model, narrow-minded investors enthusiastically assign investment combining a less risky asset and an actively managed fund which charges fund fees in fractions. The model resulted in positive association between a fund's comparative fee rate and its instability. This is usually a concern of higher-fee funds allocating more risky equity positions. Whereas both the fund portfolio and investors' exchange strategies depend on the comparative fee rate, the stability value functions do not. Remolona et al. (1997) studied relationship of market returns and funds flows using current historical evidence and proves that market short term returns affect fund flows. An assumed process, though, requires not just correlation but two-way connection between flows and returns in which fund financiers respond to market activities while the market itself retorts in response to the financiers' behavior. In addition, the paper inspected the data on cumulative mutual fund movements by distributing them into expected and unexpected modules and examining their relationships with market yields. Finally, the paper concluded that on usual, the impacts of short-term earnings on mutual fund flows have been relatively weak however were found to be strong in definite periods of major market failures, though still not robust enough to tolerate a dipping curve in asset prices.

Highlighting the significance of the industry in the case of Pakistan and highlighting the need for further progress, Shah and Hijazi (2005) stated that mutual funds are vital financial development and has showed remarkable growth specifically to mobilize savings but still substantial progress is required in comparison to developed countries. Capital markets in developed economies are contributing to overall progress and economic expansion. Similarly Afza and Rauf (2009) argued that the emergence of mutual funds industry in Pakistan is a wonderful development. However much has been done and healthy progress can be witnessed, still a lot is necessary and crucial for the growth of this industry in the case of Pakistan both in closed and open ended funds. Another contribution in the case of Pakistan comes from that of Nazir and Nawaz (2010) who examined the determinants of mutual funds growth in Pakistan. Utilizing panel regression estimation along with fixed and random specifications, it was found that funds returns, family proportion and ratio of expense are positily linked with growth of mutual funds while management fee and risk adjusted returns are negatively associated with mutual funds growth in the case of Pakistan.

Given that overwhelming amount of literature is availalble and numerous models and methodologies are being used to investigate various dimensions of funds performance, growth and sizes. However the literature concerning Pakistan is narrow and scarce. Few studies have been done

and to the best of our knowledge none has assessed the effects of fund sizes mainly the induction of new funds or increasing the size of existing fund on the AUM and the effects of family growth on the growth of individual funds managed by AMCs particularly in the case of Pakistan. Hence this study is designed to traverse this gape and is the first of its kind effort.

Research Hypotheses

H1: New Funds induction significantly affects Net Assets of AMCs.
H2: Increase in existing Fund Size significantly affects Net Assets of AMCs.
H3: Fund Growth Performance depends on its Family Growth Performance.

Tools and Methods

We selected a total of 180 open ended Mutual funds, managed by 18[5] AMCs over the period of July-2009 to most recent July-2016. Utilizing quarterly data with a total of 3,808 observations are included in the initial sample which forms quite a reasonable sample. All the data is extracted from the website of MUFAP and the financial managers' reports of the AMCs. Primarily, the data has been prepared in three phases; initially the data has been collected for the selected variables of AUM, New Fund Sizes (NFS) and Existing Fund Sizes (EFS). In the second phase, increase and decrease of fund sizes and AUMs are calculated in percentage terms. And finally the annual increase or decrease in fund sizes has been calculated in percentage terms, however newly inducted funds have been separated from the existing funds. In this way, funds merged and acquired before July-2009 are not considered. Similarly closed end funds during the mentioned period are excluded. Furthermore AMCs which did not launch new funds during the said period are also excluded from the sample. The final variables are then supplemented into the following model;

$$\mathrm{AUM}_{it} = \alpha_i + \beta_1 EFS_{it} + \beta_2 NFS + \varepsilon_{it} \quad \text{.....(1)}$$

Where:
AUM: Assets under Management of the AMCs
EFS: Existing Fund Size of the AMCs
NFS: New Fund Size of the AMCs
ε_{it}: the stochastic disturbance or error term

Where the subscripts it represents the measure for AMC i at time t. The convention purpose is to let i denote the cross section effects and t for the time identifier. The above equation (1) is a panel regression approach and is estimated accordingly to obtain the common effects.

[5] Initially, we selected 20 AMCs, however later on, PICIC Asset Management has been acquired by HBL and KASB Securities was merged with Bank Islami.

However, considering a simple case of panel data with possibly a disregard for space and time dimensions, in such ways the resultant model will have constant coefficients both in terms of intercepts and slopes. In other words we are simply saying that there is neither significant space (firm) nor temporal (time) effects. In such case scenarios we can pool all the data and just estimate usual OLS regression to capture the common effects among the variables in the model. The resultant estimation is usually done with the whole sample that is (n x t) and coincides with the ordinary least square estimation (Gujarati, 2004).

However, a common risk associated with relying only on the OLS is that the coefficients might be correlated with the error term-there will be some form of endogeneity, thus making the estimated coefficients a bit unbiased and we might lose the potential opportunity to get rid of the unobserved fixed and random effects. Hence, in order to deal with panel and cross sectional specifications, these two issues of Heterogeneity bias and the endogeneity needs to be considered (Kumar et al., 2015). To care for the unmodeled heterogeneity and endogeneity within our parameters, the following Fixed Effect and Random Effect models have been expressed;

A simple Fixed Effect model can be represented as;

$$y_{it} = \alpha_i + X_{it}\beta + \varepsilon_{it} \quad \text{.....(2)}$$

Similarly a Random Effect relationship can be modeled as;

$$y_{it} = \mu + \alpha_i + X_{it}\beta + \varepsilon_{it} \quad \text{.....(3)}$$

The efficiency of the above models are tested under the Haussmann Test and the LM (Lagrange Multiplier) test as model selection tools to test the appropriateness of our models that whether FE or RE will yield efficient and robust estimators in our case.

Empirical Findings

In this study a total of 180 open ended mutual funds were selected which are under management of the 18 AMCs. Table 1 provides a description of the same with their net assets flows in percentage terms over the period 2009-2016. Some points to ponder from table I are that AUM size declined during FY 09-10 by 35% due to decline in AUM of 9 AMCs with 40.38%, 29.48%, 7.96%, 19.30%, 47.78%, 7.99%, 19.44%, and 28.45% of AKD Investment Management Ltd., Askari Investment Management Ltd., Habib Asset Management Ltd., HBL Asset Management Ltd., JS Investment Ltd., NBP Fullerton Asset Management Ltd., Pak Oman Asset Management Company Ltd. and UBL Fund Managers Ltd. respectively.

Although, the overall decline of 35% in FY 09-10 was the result of remarkable declining in

existing funds' sizes of 15 out of 18 AMCs with 939%, but the contribution of 8 new funds with 575% showed high impact during FY 09-10 and helped the industry to cover up the declining in AUM size. This declining behavior was the result of shaky investor confidence due to global financial crises and revoked in the mid-2009.

However, FY 10-11, gone well for the industry, where not only existing funds' sizes increased with 1441% as compared to FY 09-10 but also induction of new funds contributed well with 1500% , resulting in the overall growth of 582% in terms of AUM size. Considerable growth of 74%, 129% and 118% was observed by ABL, Askari and HBL respectively. This growth was the result of contribution in existing fund sizes of 9 AMCs with the contribution of almost 2000%, where 7 AMCs inducted new funds. This was supplemented by restored investor confidence globally. Similarly, FY-11-12 proved to be the most progressive year in terms of new funds with a staggering 4313% growth. However, FY-12-13 recorded a 3386% growth in existing funds followed by 3314% in the year 13-14 which is taken to be a good sign for the industry to consolidate. Again in FY-14-15, the highest growth in new funds is observed with remarkable 5120%, followed by 620% in the following year and 3869% in terms of existing funds—again consolidating.

Similarly, Table 2 provides a detailed description for the net assets under management of AMCs and provides a general portrait that those AMCs who introduced new funds during the time under consideration turn to end up with relatively higher total net assets under management. Similarly Table 3 shows that by June 2009, a total of 81 open-ended funds were being managed by AMCs, however, later on, 90 new funds were introduced by the industry.

Finally, to test our first two hypotheses, summary of our regression model(s) of common effects along with fixed and random effects are produced in table 4. The summary of results for our regression models as presented in Table 4, exhibits that the independent variables are able to determine the Assets Under Management (AUM) for the AMCs under consideration are more or less the same under the three models as 34.6% under common effects, 34.7% under the Random Effects and 33.9% under the Fixed Effects model as indicated by the adjusted R2.

It was observed that all of the estimated coefficients are statistically different from zero with the expected signs in all of the three models implying that increase in existing fund size is significantly and positively contributing towards the AUM for about more or less 0.07% under all of the three estimated models. The positive sign implies that by a unit increase in the existing fund size, the firms will observe an increase of 0.07% on average. Similarly induction of new funds (NFS) turns out to be another major determinant of AUM as shown to significantly and positively affecting AUM for almost 0.08%.

Table 1

Panel-A (FY 09-10 to 12-13): Net assets flows in percentage of AMCs in the open-ended category of mutual fund industry.

S. No.	Asset Management Companies	FY 09-10			FY 10-11			FY 11-12			FY 12-13		
		AUM	EFS	NFS	AUM	EFS	NFS	AUM	EFS	NFS	AUM	EFS	NFS
1	ABL Asset Management Company Limited	-0.74%	-4.96%	0.00%	-29.29%	13.80%	331.62%	280.28%	37.09%	1718.47%	-46.67%	197.10%	0.00%
2	AKD Investment Management Limited	-40.38%	-109.45%	0.00%	-4.16%	6.34%	0.00%	5.02%	-8.27%	-0.62%	67.32%	332.87%	0.00%
3	Al Meezan Investment Management Limited	9.98%	111.47%	81.06%	68.14%	1124.23%	0.00%	27.08%	35.03%	0.00%	17.07%	181.01%	207.65%
4	Alfalah GHP Investment Management Limited	234.51%	8.18%	18.59%	13.69%	-59.65%	142.94%	24.46%	102.45%	0.00%	1.71%	157.94%	0.00%
5	Askari Investment Management Limited	-29.48%	-109.88%	334.18%	129.63%	446.90%	0.00%	45.28%	79.50%	7.97%	-17.22%	164.85%	110.44%
6	Atlas Asset Management Limited	16.41%	-85.24%	31.95%	34.90%	93.85%	0.00%	28.09%	135.88%	0.00%	15.46%	205.11%	0.00%
7	BMA Asset Management Company Limited	17.60%	-88.10%	27.68%	-32.29%	-98.23%	0.00%	43.84%	203.59%	0.00%	-11.43%	-12.93%	0.00%
8	Faysal Asset Management Limited	6.57%	-24.84%	0.00%	-25.57%	-70.21%	81.35%	-25.65%	175.74%	0.00%	11.96%	8.43%	0.00%
9	Habib Asset Management Limited	-7.96%	-15.03%	-14.09%	8.39%	-30.73%	43.62%	61.02%	156.36%	0.00%	23.17%	93.37%	9.61%
10	HBL Asset Management Limited	-19.30%	-79.87%	0.00%	118.85%	27.61%	446.74%	51.07%	280.33%	3.44%	14.22%	266.22%	0.00%
11	JS Investments Limited	-47.78%	-213.85%	0.00%	6.99%	-112.66%	2.87%	-1.65%	-17.36%	0.00%	18.95%	64.12%	0.00%
12	Lakson Investments Limited	68.25%	119.97%	0.00%	41.23%	150.46%	0.00%	64.56%	102.58%	11.87%	36.12%	108.64%	0.00%
13	MCB-Arif Habib Savings and Investments Limited	305.78%	48.45%	42.47%	7.66%	-91.04%	0.00%	44.67%	0.37%	288.42%	-16.35%	287.52%	0.00%
14	National Investment Trust Limited	12.02%	-7.57%	28.31%	24.45%	2.65%	0.00%	5.36%	40.90%	0.00%	17.67%	98.29%	0.00%
15	NBP Fullerton Asset Management Limited	86.87%	-93.90%	25.68%	25.05%	-72.36%	272.32%	124.91%	275.86%	1932.43%	-0.13%	527.40%	0.00%
16	Pak Oman Asset Management Company Limited	-19.44%	-66.03%	0.00%	57.43%	174.51%	0.00%	-0.21%	-92.31%	-28.12%	13.97%	82.99%	0.00%
17	Primus Investment Management Limited	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	111.11%	561.36%	0.00%
18	UBL Fund Managers Limited	-17.95%	-97.43%	0.00%	33.58%	-63.77%	179.02%	68.65%	251.89%	379.97%	-34.52%	61.97%	-24.77%
	Total	574.94%	-708.09%	575.81%	478.69%	1441.69%	1500.49%	846.80%	1759.62%	4313.82%	222.43%	3386.27%	302.93%

Panel-B (FY 13-14 to 15-16): Net assets flows in percentage of AMCs in the open-ended category of mutual fund industry.

S. No.	Asset Management Companies	FY 13-14			FY 14-15			FY 15-16		
		AUM	EFS	NFS	AUM	EFS	NFS	AUM	EFS	NFS
1	ABL Asset Management Company Limited	47.35%	145.71%	125.60%	69.50%	254.66%	0.00%	39.74%	149.11%	143.65%
2	AKD Investment Management Limited	11.37%	54.62%	0.00%	7.85%	-11.33%	0.00%	35.49%	198.20%	0.00%
3	Al Meezan Investment Management Limited	21.49%	154.36%	100.87%	16.34%	249.52%	4356.58%	19.40%	158.31%	223.56%
4	Alfalah GHP Investment Management Limited	16.73%	277.95%	0.00%	52.83%	440.39%	428.57%	18.62%	414.63%	76.69%
5	Askari Investment Management Limited	-5.13%	-104.15%	0.00%	-16.47%	79.38%	0.00%	13.54%	51.25%	0.00%
6	Atlas Asset Management Limited	44.60%	147.03%	-27.23%	20.87%	211.09%	229.76%	19.12%	135.16%	0.00%
7	BMA Asset Management Company Limited	-38.00%	-77.14%	0.00%	70.41%	291.44%	0.00%	-7.27%	-37.55%	0.00%
8	Faysal Asset Management Limited	51.07%	129.19%	-7.29%	-7.92%	255.33%	0.00%	14.03%	158.20%	12.68%
9	Habib Asset Management Limited	33.13%	9.86%	0.00%	-28.80%	7.19%	0.00%	-1.43%	33.50%	0.00%
10	HBL Asset Management Limited	25.52%	403.02%	0.00%	-16.43%	-103.84%	-6.99%	12.26%	76.54%	20.00%
11	JS Investments Limited	7.51%	229.18%	-45.73%	-42.71%	-136.78%	0.00%	-1.16%	64.28%	0.00%
12	Lakson Investments Limited	-18.99%	480.08%	0.00%	-0.05%	54.82%	0.00%	14.20%	301.00%	0.00%
13	MCB-Arif Habib Savings and Investments Limited	9.01%	518.65%	0.00%	16.54%	454.72%	7.79%	-5.09%	311.03%	60.84%
14	National Investment Trust Limited	20.45%	1.36%	0.00%	23.50%	72.61%	0.00%	-3.14%	-8.49%	8.86%
15	NBP Fullerton Asset Management Limited	-11.21%	235.30%	1.23%	-4.01%	174.92%	90.22%	40.00%	467.29%	39.22%
16	Pak Oman Asset Management Company Limited	-65.80%	-246.25%	0.00%	11.73%	157.58%	0.00%	132.30%	495.25%	0.00%
17	Primus Investment Management Limited	13.59%	45.13%	-107.33%	-12.95%	30.98%	16.78%	36.72%	581.06%	0.00%
18	UBL Fund Managers Limited	20.74%	910.39%	194.76%	9.33%	459.25%	-2.12%	29.87%	320.90%	35.47%
	Total	183.41%	3314.28%	234.88%	169.56%	2941.91%	5120.58%	407.19%	3869.65%	620.97%

Table 2

Net assets under management of AMCs in the open-ended category of mutual fund industry

Net assets under management of AMCs

No. of AMCs	Asset Management Companies	Net Assets (Rupees in billion)																					
		FY 09-10			FY 10-11			FY 11-12			FY 12-13			FY 13-14			FY 14-15			FY 15-16		
		Existing Funds	New Funds	Total	Existing Funds	New Funds	Total	Existing Funds	New Funds	Total	Existing Funds	New Funds	Total	Existing Funds	New Funds	Total	Existing Funds	New Funds	Total	Existing Funds	New Funds	Total
1	ABL Asset Management Company Limited	8.74	-	8.74	5.52	0.83	6.35	5.23	34.84	40.07	6.29	0.64	6.93	10.20	-	10.20	17.88	-	17.88	22.23	3.35	25.58
2	AKD Investment Management Limited	1.11	-	1.11	1.06	-	1.06	0.95	0.10	1.05	1.93	-	1.93	2.15	-	2.15	2.32	-	2.32	3.15	-	3.15
3	Al Meezan Investment Management Limited	15.27	0.97	16.24	28.77	-	28.77	36.90	0.29	37.19	40.93	0.70	41.63	51.75	2.07	53.82	59.64	3.08	62.72	69.38	6.37	75.75
4	Alfalah GHP Investment Management Limited	4.47	1.82	6.29	7.10	-	7.10	8.91	-	8.91	9.05	-	9.05	10.09	0.51	10.60	17.12	-	17.12	16.14	4.30	20.44
5	Askari Investment Management Limited	1.53	1.52	3.05	8.88	-	8.88	12.12	0.92	13.04	10.23	-	10.23	9.62	-	9.62	8.04	-	8.04	8.85	-	8.85
6	Atlas Asset Management Limited	2.53	1.41	3.94	5.45	-	5.45	7.15	-	7.15	8.30	-	8.30	12.33	0.17	12.49	14.62	0.60	15.22	18.05	-	18.05
7	BMA Asset Management Company Limited	0.36	0.84	1.20	0.80	-	0.80	1.17	-	1.17	1.03	-	1.03	0.62	-	0.62	0.52	-	0.52	0.42	-	0.42
8	Faysal Asset Management Limited	8.64	0.33	8.97	6.17	0.58	6.75	4.94	-	4.94	5.34	-	5.34	7.98	0.39	8.38	7.70	-	7.70	8.38	0.37	8.75
9	Habib Asset Management Limited	1.70	0.13	1.83	1.37	0.57	1.94	3.16	-	3.16	3.35	0.36	3.71	4.70	-	4.70	2.71	-	2.71	2.61	-	2.61
10	HBL Asset Management Limited	4.48	-	4.48	4.89	7.30	12.20	19.33	0.12	19.45	22.25	-	22.25	27.20	0.90	28.10	21.34	1.93	23.28	24.64	1.35	25.99

(Table Continued...)

11	JS Investments Limited	8.66	1.42	10.08	10.64	-	10.64	10.34	-	10.34	11.97	0.45	12.42	13.25	-	13.25	8.12	-	8.12	7.72	0.30	8.02
12	Lakson Investments Limited	3.00	-	3.00	4.15	-	4.15	6.88	1.03	7.91	13.27	-	13.27	10.64	-	10.64	10.56	-	10.56	12.15	-	12.15
13	MCB-Arif Habib Savings and Investments Limited	19.49	6.53	26.02	27.42	0.18	27.60	41.43	-	41.43	34.24	-	34.24	37.31	-	37.31	42.67	0.74	43.41	39.94	0.80	40.74
14	National Investment Trust Limited	30.16	6.04	36.19	45.53	-	45.53	47.25	-	47.25	55.77	-	55.77	67.35	-	67.35	79.39	4.36	83.75	79.84	0.87	80.72
15	NBP Fullerton Asset Management Limited	12.85	0.59	13.43	16.42	0.66	17.08	21.59	23.99	45.58	45.16	-	45.16	37.62	2.43	40.06	31.34	3.56	34.90	43.71	6.51	50.21
16	Pak Oman Asset Management Company Limited	0.46	-	0.46	0.78	-	0.78	0.51	0.26	0.76	0.85	-	0.85	0.40	-	0.40	0.44	-	0.44	1.20	-	1.20
17	Primus Investment Management Limited	-	-	-	-	-	-	-	-	-	7.01	-	7.01	7.30	0.33	7.63	6.43	0.12	6.54	7.57	1.39	8.96
18	UBL Fund Managers Limited	18.53	-	18.53	21.13	4.39	25.52	42.04	4.65	46.70	30.75	0.95	31.70	36.61	1.25	37.86	37.31	3.30	40.61	40.68	12.61	53.30
	Total net assets	141.95	21.60	163.55	196.09	14.51	210.61	269.89	66.20	336.09	307.71	3.10	310.81	347.12	8.06	355.18	368.15	17.70	385.85	406.66	38.21	444.87

Table 3

Funds Induction by AMCs as Open-Ended Funds.

No. of AMCs	Asset Management Companies	FY 09-10	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	New Funds
1	ABL Asset Management Company Limited	2	4	5	5	6	6	12	10
2	AKD Investment Management Limited	3	3	4	4	4	4	4	1
3	Al Meezan Investment Management Limited	6	6	6	7	10	12	16	10
4	Alfalah GHP Investment Management Limited	8	9	9	9	9	10	13	5
5	Askari Investment Management Limited	5	5	6	7	7	7	7	2
6	Atlas Asset Management Limited	5	5	5	5	6	7	7	2
7	BMA Asset Management Company Limited	2	2	2	2	2	2	2	0
8	Faysal Asset Management Limited	4	6	6	6	7	7	8	4
9	Habib Asset Management Limited	2	3	3	4	4	4	4	2
10	HBL Asset Management Limited	4	7	10	10	10	13	14	10
11	JS Investments Limited	7	8	8	8	9	9	9	2
12	Lakson Investments Limited	3	3	6	6	6	6	6	3
13	MCB-Arif Habib Savings and Investments Limited	11	11	12	12	12	13	14	3
14	National Investment Trust Limited	3	3	3	3	3	3	5	2
15	NBP Fullerton Asset Management Limited	8	10	12	12	13	17	21	13
16	Pak Oman Asset Management Company Limited	3	3	4	4	4	4	4	1
17	Primus Investment Management Limited	0	0	0	2	5	6	6	6
18	UBL Fund Managers Limited	5	7	8	11	13	14	19	14
	Total Number of Funds	**81**	**95**	**109**	**117**	**130**	**144**	**171**	**90**
	Percentage of addition of new funds	9%	17%	15%	7%	11%	11%	19%	
	Number of addition of new funds	7	14	14	8	13	14	27	

Table 4

*Summary of Regression Results. Note: *, ** and *** indicates statistical significance at 1. 5 and 10% levels respectively. t-Statistics in parentheses.*

Variables	Common Effect	Random Effect	Fixed Effect
Intercept	0.100452	0.100316	0.090951
	(2.095707)**	(2.047198)**	(1.817617)***
EFS	00.071938	0.072010	0.076030
	(3.215536)*	(3.187366)*	(2.938044)**
NFS	0.07859	0.079054	0.085638
	(5.593181)*	(5.555340)*	(5.021082)*
			0.522100
R2	0.363518	0.364346	0.339629
Adj. R2	0.346315	0.347167	2.861278*
F-Statistic	21.13198*	21.20781*	
			LM Test 29.441602*
Hausman Test	0.560960	LM Test	(0.0000)
	(0.7554)		

Finally, in the second case scenario, and in order to test our third hypothesis, an individual fund is been separated from its family by following (Elton et al., 2007; Choi et al., 2016 & Chan et al., 2016) by taking averages for the family (excluding the fund) and then the individual firm. The effect of the same has been tested under OLS regression. To find the effect of growth of funds family on the single fund of the same family as mentioned above, we found that family performance significantly affect individual firms' performance with the results being reported in table 5 below. These findings are in line with those of Bessler et al. (2016).

Table 5

*Regression Results. Effect of Family growth performance on Fund performance. Note: *, ** and *** indicates statistical significance at 1. 5 and 10% levels respectively. t-Statistics in parentheses.*

Variables	Within Family	Outside Family
Intercept	0.0484 (2.350)*	0.0573 (4.001)*
Fund	0.7187 (2.989)*	0.3047 (6.589)*
F-Statistic	43.42368*	8.94*
Adj. R2	0.0847	0.2410

Conclusions

AMCs strive to channel and pool savings and invest these in well diversified portfolios in an optimal way. The size of these portfolios is closely related to their AUM. This study in particular examined the effects of fund sizes-mainly the induction of new funds and the increase in existing funds, managed by AMCs on their AUM for the mutual fund industry of Pakistan. Furthermore, we assessed that whether Fund Family growth has any effect on individual fund. We examined a total of 180 open ended Mutual funds, managed by 18 AMCs over the period of July-2009 to most recent July-2016. The main findings suggests that both existing and new fund size are having positive and significant impact on AUM and also the growth of fund is strongly associated with Family growth. Our findings are consistent with those of Pollet et al. (2008), Chan et al. (2016) and Bessler et al. (2016). It was further observed that those AMCs who introduced new funds during this period, were managing relatively large assets as compared to those who introduced small amount of new funds or

did not inducted any new fund at all during the period under consideration. However these findings are not in line with those of Chan et al. (2016) Pollet et al. (2008) and Beckers and Vaughan (2001).

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