

DOES HIGH FEES MATTER? EVIDENCE FROM THAI MUTUAL FUND INDUSTRY

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Received 23 May 2018

Accepted 23 November 2018

ABSTRACT

In this study, a universal question raised by mutual fund investors– “Does high fees matter?”– is answered. Three evidence are documented. First, the superior mutual fund performances are not reflected in higher fees. Second, the association between mutual fund and commercial bank affects both performances and fee in that the different type of mutual funds –bank-related and non-bank-related funds– charge different fees pertaining different performances. Last, the performances of higher fees charged funds –non-bank-related funds– are similar to those of bank-related fund consistent with the informational advantage hypothesis. Bank-related fund has lower fees observed as lower expense ratio owed to cost benefit from economies of scale. This implies a higher fee paid to mutual funds does not guarantee a superior performance.

Keywords: Mutual fund, Affiliated fund, Expense ratio, Mutual fund fees

JEL: G12, G21, G23

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Introduction

Mutual fund is an alternative of savings vehicle for a novice investor. As mutual fund is managed by professional, certified, or high ability fund managers or a team of expert fund managers, an investment apprentice can rely on a trusted investment decision made by fund managers. In return, fund managers charge management fee and other fee in lieu of generating good fund performance. From the investor point of views, they invested in mutual fund expect to earn superior return compared with portfolios managed by an individual. Therefore, funds charge high fees should outperform lower fees charged funds. Many studies try to answer a question raised by mutual fund investors – “Does high fees matter?”

Prior studies on mutual fund performance focus on total expense ratio related to fund objective. However, a characteristic of mutual fund in recent mutual fund studies is the bank-mutual fund relationship, which is not widely studied in prior literatures, plays an important role in analyzing fund performances. According to the relationship between mutual fund and commercial bank, mutual funds can be classified into types namely bank-related funds hereafter BR funds

and non-bank related funds hereafter NBR funds. BRfunds are mutual funds operated by an asset management corporation owned by a commercial bank, vis-à-vis for NBR funds.

Based on bank-mutual fund relationship, BRfund managers and NBRfund managers take different information and face with different investment constraints². Prior studies show that BR funds are more liquid than NBR funds due to more new investment flows and lower searching cost (Nathaphan & Chunchinda, 2012; Sirri & Tufano, 1998). However, the association between commercial banks and their associated mutual funds can rise a corporate issue called an agency problem influencing BR funds’ investment constraints. Hence, this commercial bank and mutual fund relationship effects investment outcomes. For instance, Mehran and Stulz (2007) and Hao and Yan (2012) show that a commercial bank potentially encourages its associated mutual funds to support bank activities by providing a price support for bank’s client Initial Public Offering stock (IPO). A commercial bank prefers to provide this IPO’s price support because this commercial bank expects to earn an upcoming service in another unit of the bank businesses, causing the mutual funds allocate sub-optimally and lose diversification advantage. Recently,

² See detail in Mehran &Stulz (2007), Massa &Rehman (2008), Hao& Yan (2012) and Berzins, Liu, &Trzcinka.

Wattanatorn et. al (2015) demonstrate that the commercial bank and mutual fund relationship affects the risk-taking behavior of mutual funds. As a result, this study aims to explore the effect of bank-mutual fund relationship on mutual fund fees and the fund performances.

In this study, we examine the worthiness from the investors point of view. We focus on the connection between the fees that investors need to pay—mutual fund fees and the performances generated by mutual fund. Further, we pay more interest on the mutual fund industry in the emerging market because the emerging market successfully proves an important economic growths as well as an impressive saving growth, subsequently calling for an attention in the international market (Kearney, 2012). In this study, we base our analysis on Thai mutual fund industry for the following reasons. First, Thailand is one of the major emerging markets in ASEAN Economic Community (AEC) and Thailand has demonstrated an express economic expansion over last decade. In addition to the economic expansion, Thai mutual fund industry has remarkably expanded between 2002 and 2016. It grows at 18.33% per annual. Second, Prommin, Jumreornvong, and Jiraporn (2014) provide an evidence to support that the debt financing dominates the businesses in Thailand. Besides, they

shows that bank loans is the primary channel for debt financing. Therefore, the bank-based economy allows us to examine an association between the commercial bank and its associated mutual fund. Based on the information advantage hypothesis, BRfunds access to superior and unpublished information in that commercial banks allow to distribute their customers' debt financing information with their associated mutual funds. As a consequence, BRfunds have better searching cost efficiency than NBR funds. As a result, we provide an empirical evidence to show the difference connection in mutual fund fee and performance between BR and NBR.

The remaining of this study organizes as follow. Section 2 addresses related studies. Section 3 provides supportive reasoning of choosing Thailand as the sample. Section 4 gives an overview of Thai mutual fund industry. Section 5 discusses detail of data used in this study and how to classify mutual funds into each fund type. Section 6 exhibits empirical results. Conclusion is in the last section.

Literature review

1. Mutual fund fee

In order to generate the return to fund investors, Asset Management Company (AMC)

charges fees to cover its management and other expenses, i.e., facilities and infrastructure, securities and market research, etc. Traditionally, we can classify these fees in to two major types of expenses. The first type is an annually charged fee, i.e., management fee, administration fee, accounting fee, custodian fee, registration fee, selling and advertising expense, charged as the percentage of the size of managed asset or Asset Under Management (AUM). The second type is a one-time charged fee, i.e., front-and back-end loads which are charged as the percentage of additional investment and redemption. For example, high turnover ratio funds are more likely to charge greater fees. On the other sides, fund turnover ratio is positively associated to mutual fund's performance (Grinblatt & Titman, 1994). It is believed that although active fund managers rebalance their portfolio positions regularly causing high turnover cost or high transaction cost, they can generate positive alpha or superior abnormal returns. However, the prior literature discovers are mixed. Wermers (2000) shows that though the successful funds demonstrate superior performances, e.g. greater returns than those of loser funds, the total return after transaction cost is lower

than stated due to high expenses and turnover costs.

Besides, mutual funds charge different fees differed by both external factors and internal factors. For example, Khorana, Servaes, and Tufano (2009) show that mutual fund fees vary by numbers of external factors including the number of markets fold, the gross domestic production, and by the judicial system. Furthermore, market surroundings affect level of fees charged. To illustrate, in a competitive market condition, e.g. the large number of funds, the level of fund fees charged are lowered (Ruckman, 2003). For internal factors, the mutual funds charge fees differ by its investment objective, by its investment markets, by the fund's size, and by its fund family's size. Even though numbered studies examine mutual fund fees in developed market, the proof of mutual fees study in emerging market is scant. The prior studies by Na Lamphun & Wongsurawat (2012) suggest the fund family's size associate with the mutual fund expense in Thai market. Besides, they find that the tax-benefit fund³ charges a significantly higher fees than the non-tax benefit funds. However, both researches ignore an importance

³ Tax benefit fund includes long-term equity fund and retirement fund

characteristic of mutual funds which is the bank and mutual fund relationship.

2. Commercial bank and mutual funds relationship

The relationship between the commercial bank and mutual fund is one of important characteristic of mutual fund. In general, mutual funds can be classified into BR funds and NBR funds based on their commercial bank and mutual fund relationship. Intuitively, the BR funds and NBR funds differ in various aspects including available information and investment constraints (Massa and Rehman, 2008, Mehran and Stulz, 2007). Further, the BR funds have less liquidity constraint due to a larger new investment flows. This is because the BR funds offer lower information searching cost than NBR funds (Nathaphan & Chunchinda, 2012; Sirri & Tufano, 1998). On the other hands, a connection between commercial bank and its associated mutual funds can cause an agency conflict. Under the wing of commercial, BR funds can be influence by the commercial bank. Commercial bank can extra investment constraints and impact investment outcomes. For example, Mehran and Stulz (2007) and Hao and Yan (2012) show that a bank might encourage its related

mutual funds to support the client's IPO stock price, making the mutual funds invest sub-optimally and lose diversification advantages.

Their results support a conflict of interest hypothesis in that the NBR funds out perform BR funds. Unlike the previous studies, we question whether BR funds and NBR funds charge the same amount of fees. Then we further compare the fees changing by each fund investment objective.

3. Why Thailand?

Although Thailand is classified as the bank-based market where businesses are financing predominately through bank loan, research on the effect of bank-mutual fund relationship is limited. The prior finding accounting for bank-mutual fund relationship is devoted on developed markets⁴. This study aims to provide such evidence on the bank-mutual fund relationship because emerging markets successfully demonstrate an increasing role in global financial system. Hence, our analysis base on the Thai mutual fund industry for several reasons. First, Thailand is one of the important emerging markets in ASEAN Economic Community (AEC), and Thailand has demonstrated an express economic growth. Thai GDP grow

⁴ For example, Mehran and Stulz (2007), Massa and Rehman (2008), Hao and Yan (2012), Berzins, Liu, and Trzcinka (2013) support that BR funds generate

greater performance than NBR funds because of information advantage. Their finding is based in the U.S. markets.

about 6.80% per annual between 2000 and 2016. During the same period, the world GDP grow at 5.40% per annual⁵. Second, financing through bank-loan is the primary financing for businesses in Thailand (Prommin et al., 2014). Moreover, Charoenrook and Pavabutr (2017) document the evidence suggested that the BR funds subjugated Thai mutual funds industry. This allows us an opportunity to examine whether BR funds exploit the bank's privilege information as proposed by the information advantage hypothesis. Bank can offer such privilege to BRfunds because commercial banks can readily access to their clients' information—e.g. loan, transaction, and other information. Banks can strategically share those information with their associated mutual funds⁶. Furthermore, the information searching cost can negatively affect new investment flow (Sirri and Tufano, 1998). As the individual investors or the businesses

normally do the transaction with commercial bank, the commercial banks can tactically feed the information about availability of BR funds to their customer. Hence, the BRfunds have lower information searching cost. Consequently, BR funds attract a larger positive funds flow than NBR funds⁷, making themselves a less liquidity constraint.

4. Industry overview

In 1975, the government of Thailand and the International Finance Corporation initiate mutual fund industry in Thailand. During the grooming period of operation—from 1975 to 1992, there is only one asset management company (AMC) in Thailand namely Mutual Fund Public Co., Ltd. This AMC manages 22 funds during this grooming period. Among these 22 funds, there are 12 domestic funds and 10 international funds. In 1992, the Securities and Exchange Commission of

⁵ Source: World Bank

⁶ Information advantage hypothesis claims that BR funds enjoy privilege information. Bank can strategically share the information to enhance mutual fund performances. For example, bank allows to distribute clients' information gathered from the other line of bank's businesses with BR funds. In sum, BR funds gain informational advantages in several ways. First, they enjoy the lower information cost. Second, they allow to use unpublished material available only at their branch such as loan data (Massa and Rehman 2008, Mehran and Stulz 2007, Hao and Yan 2012, and Berzins, Liu,

and Trzcinka 2013). Last, they have advantage of receiving the potentially underprice IPO when their affiliated financial institution is an IPO underwriter (Ritter and Zhang 2007).

⁷ Sirri and Tufano (1998) demonstrate that the lower the searching cost, the higher the new investment flows to mutual fund. Furthermore, Frye (2001) finds consistent result with Sirri and Tufano. He finds that BR funds have a lower information searching cost than NBR funds because the firms do business activities through traditional banking channels. As a result, this lower information searching cost of BR funds fascinates a larger new investment flow.

Thailand announces the Security and Exchange Act BE2535 (AD,1992). This Act allows the commercial banks, other financial institutions, and their subsidiaries to operate and setup new mutual fund. As of January 2017, there are 22 AMC. Based on bank and mutual fund relationship, we can classify these 22 AMC into 11 bank-related AMC and

another 11 non-bank-related AMC. Although there is the same number of bank-related AMC and non-bank-related AMC, bank-related AMC dominates Thai mutual fund industry. Bank-related AMC manages 602 funds, while the non-bank-related AMC manages 423 mutual funds⁸.

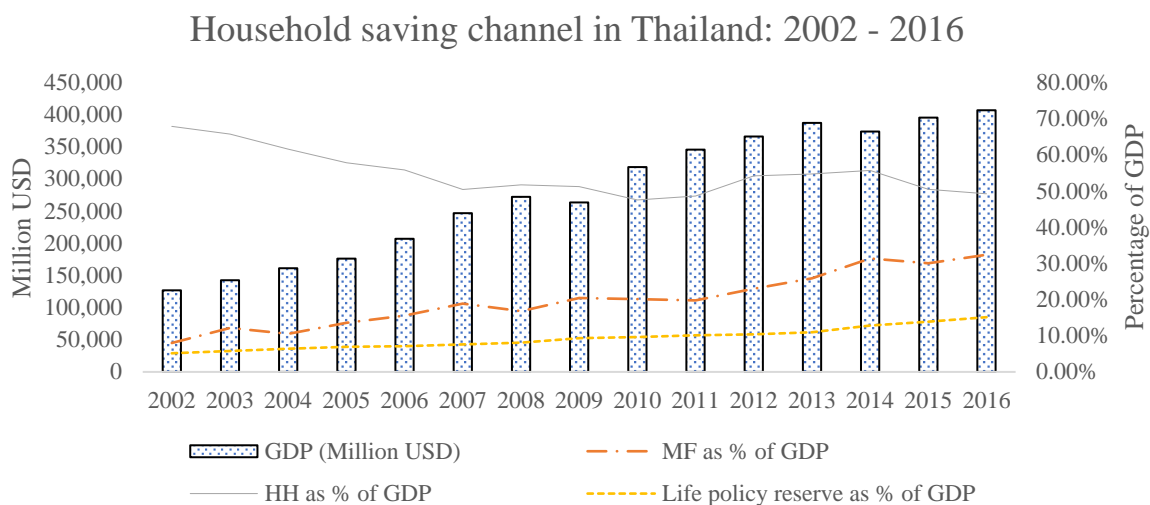


Figure 1

Thai mutual fund industry demonstrates an impressive growth during 2002 and 2016 as shown in Figure 1. In 2002, the total of asset under management (AUM) is 10,124 million USD. This AUM is about 7.99% of GDP. And about 38.73% of equity market capitalization at the same time. After 2002, Thai mutual fund industry grows significantly by 18.65%. At the end of 2016, the AUM expands to

131,706.74 million USD. This AUM accounts for 32.37% of GDP. During the same period, the popularity of investment in saving deposit declines. While the amount invested in life insurance increases, it remains incomparable with the amount invest in mutual fund sector. This figure strongly supports an increasing popularity of mutual fund as alternative saving vehicle in Thai market.

⁸ Sources: Morningstar Direct database, as of Jan 2017.

Data and methodology

1. Data

The weekly data consisting of all listed and de-listed fund net asset value (NAV), AUM, and fund-flow available in Morningstar Direct from January 2008 to December 2016⁹ is used to compute the mutual fund risk, return, AUM, and fund-flow. To represent the mutual fund fees, we follow the prior literature by applying the annual reported expense ratio as a proxy for mutual fund fees (Carhart, 1997; Elton, Gruber, Das, & Hlavka, 1993).¹⁰ Since we include both listed and de-listed funds, our sample is free of the potential survivorship bias. We apply 3-months zero-coupon Thai government bond to represent market risk free rate. We use this 3-months zero-coupon bond because it is the shortest zero-coupon Thai government bond available in Thomson Reuters databased (Datastream). Since our primary objective is to examine the relationship between the mutual fund fees and mutual fund performance, our sample includes all investment objectives. We classify mutual funds by its investment objective according Morningstar Global Classification.

⁹ Due to the data limitation, the annual reported expense ratio is available only between 2008 and 2016. As the result, our sample period is between 2008 and 2016.

¹⁰ We obtain the annual reported expense ratio from the Morningstar Direct Database. The annual reported expense ratio is the percentage of fund

The Morningstar Global Classification groups mutual fund into 6 categories namely— Money Market fund (MM), Fixed Income fund (FIX), Allocation fund (ALL), Equity fund (EQUITY), Miscellaneous (MISC), and Commodities fund (COM).

In order to distinguish the mutual funds based on bank-mutual fund relationship, we follow Hao and Yan (2012) procedure. First, we gather a list of commercial banks containing full name, and other identity of bank in Thailand from Bank scope. Then, we match the name of the commercial bank and the name of Asset Management Companies (AMC). For matched AMC, we classify all mutual funds managed by match AMC as the bank-related AMC. We simply claim that the mutual funds managed by the bank-related AMC are BR funds. For the AMC that the names do not match with the name of commercial banks, we robust the information from mutual fund's website. We check any statement that implicitly and explicitly show a relationship between the fund and bank. If there is no evidence of such relationship, we

assets paid for operating expenses and management fees. The expense ratio typically includes the following types of fees: accounting, administrator, advisor, auditor, board of directors, custodial, distribution, legal, organizational, professional, registration, shareholder reporting, sub-advisor, and transfer agency.

simply claim that the non-bank-related AMC. Hence, the mutual funds managed by non-bank-related AMC are NBR funds. In total, Thai mutual fund industry has 2,025 funds at the end of 2016. There are 1,602 BRfunds and 423 NBR funds. In sum, our sample contain price data of 16,380 funds-year-observation and total expense data of 5,237 funds-year-observation.

2. Performance measurement

We use two traditional measurements to measure the mutual fund performance including total return after all expense and Sharpe ratio developed by Sharpe in 1966.

$$\text{Total return}_{i,t} = \frac{NAV_{i,t} - NAV_{i,t-1}}{NAV_{i,t-1}} \quad (1)$$

Where: $NAV_{i,t}$ = Net asset value of a mutual fund i at time t

$NAV_{i,t-1}$ = Net asset value of a mutual fund i at time $t-1$

Total return _{i,t}

indicates different in net asset value of a mutual fund across period, from period $t-1$ to period t . When net asset value increases over time, total return is positive indicating good fund performance. Fund performance may arise from good skill of fund manager in selecting good asset invested in the mutual

fund or from market timing skill of the manager by which buy and/or sell asset at the right time and generate positive return.

Sharpe's ratio is used as another fund performance measurement by measure excess return of a mutual fund divided by mutual fund risk represented by standard deviation of a mutual fund returns over specified period. We calculate sharpe's ratio as follow:

$$SH_{i,t} = \frac{\text{Total Return}_{i,t} - R_{f,t}}{SD_{i,t}} \quad (2)$$

Where: $SH_{i,t}$ = Sharpe's ratio of mutual fund i at period t

$SD_{i,t}$ = Standard deviation or risk measurement of a mutual fund i at period t

$R_{f,t}$ = The risk-free rate return at time t .

Empirical Result

1. Mutual fund expense

In general, our finding demonstrates that the mutual fund in our sample increases expense ratio progressively between 2008 and 2016. Based on 6 investment objectives, we examine the expense ratio for individual investment objective. Table 1 reports the ANOVA analysis based on each investment objective. Basically, the mutual fund charges

fees as the percentage of AUM. Table1 shows that the Equity driven fund consisting of equity fund and the allocation fund charges the highest fund expense per annual. Equity fund charges fund's fees about 1.724% per annual. The allocation fund charges fund's fees about 1.591% per annual whereas we find that the money market fund charges the lowest fund's fees among the other fund groups. The fund investors pay only 0.503% per annual as fees for money market fund. Comparing with Na Lamphun and Wongsurawat (2012), our finding is consistence with them in that the debt

focusing funds—FIX and MM, have lower total expense ratio comparing with Equity driven funds. Table1 further reports the ANOVA test result. The result shows that the F-statistic is 257.294 which exceed its critical value. Therefore, we reject the null hypothesis of equally expense ratio for each group of funds. We repeat the same test with other dimension of mutual fund including mutual fund performance, Total net Asset, and Mutual fund flow. Although, we find that each group of fund charges different fund expense, the performance of those group of fund is insignificantly difference.

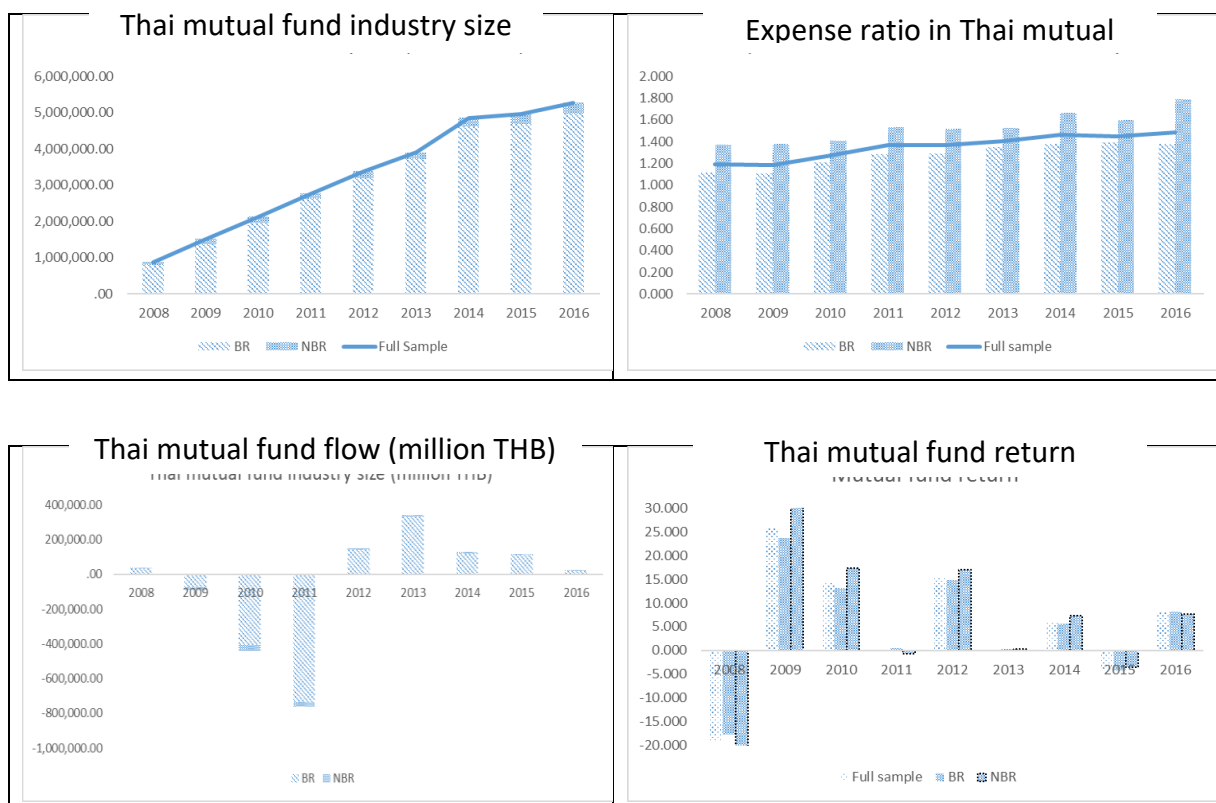


Figure 2

Table 1 reports ANOVA statistic test on mutual fund fees, return, total net asset, and total fund flow. Expense is the annual reported expense ratio, Return is the mutual fund total return, AUM is the asset under management and is reported in billion THB, Flow is the fund flow to mutual fund and is reported in billion THB. The F-statistic are reported and *,**,*** denotes statistical significance at 10%, 5%,1% level respectively.

Groups	Expense		Return		AUM		FLOW	
	Mean	s	Mean	s	Mean ¹	s ¹	Mean ⁺	s ⁺
	(%)	(%)	(%)	(%)	(THB)	(THB)	(THB)	(THB)
MM	0.505	0.003	1.753%	0.443	495.976	53.67	9.599	18.022
FIX	0.699	0.010	2.559%	0.550	1,907.435	1,036.63	-98.412	326.860
ALL	1.590	0.012	7.518%	37.210	103.454	67.41	2.053	1.637
EQUITY	1.727	0.002	9.278%	73.036	453.632	270.76	20.471	14.628
MISC	1.465	0.017	1.777%	19.664	305.934	187.30	8.524	25.745
COM	1.154	0.007	2.073%	17.852	32.045	20.00	2.051	3.212
F	257.294***		0.463		21.604***		0.976	
	¹ : x10 ⁹ THB		³ :x10 ⁶ THB					

Table 2 reports t-statistic test on mean of expense ratio between two groups of mutual fund. BR is the BR funds and NBR is NBR funds. The t-statistic are reported and *, **, *** denotes statistical significance at 10%, 5%,1% level respectively

	BR	NBR	t-statistic
Mean of expense ratio	1.268	1.499	18.9695***
STD of expense ratio	11.14%	10.56%	

In order to examine the effect of bank-mutual fund relationship, we further classify fund into BR funds and NBR funds. Figure 2 demonstrates that the mutual fund expense ratio at aggregate level, BR funds, and NBR funds. We find that all type of funds increases the expense ratio during the study periods. The finding shows that the NBRfunds increase their fees higher than that of BR funds. The cumulative increasing rate of expense ratio is

3.57% and 2.14% per annual for NBR funds, and BRfunds respectively. Table 2 reports the t-statistic test on the mutual fund expense ratio between two groups of fund. We find the supportive finding of Figure 2. We find the evidence to reject the null hypothesis that both groups of fund charge the same expense ratio, and the evidence to reject the null hypothesis that the Brfunds charges higher fund fees than non-bank related fund. The finding from this section recommends that the NBRfunds charges higher fees than BR funds. Hence, our finding here consistent with that of Massa and Rehman (2008), Mehran

and Stulz (2007), Hao and Yan (2012), and Berzins, Liu, and Trzcinka (2013) in that our finding supports the view of information advantage hypothesis.

Table 3 demonstrates the cross-sectional yearly average of mutual fund fee categorized by investment objective. Panel A reports the result of BR funds. Panel B reports the result of NBR funds.

Panel A: BR Expense						
	MM	FIX	ALL	EQUITY	MISC	COM
2008	0.516	0.556	1.400	1.668	1.674	1.020
2009	0.480	0.531	1.468	1.730	1.274	1.030
2010	0.450	0.593	1.568	1.649	1.494	1.086
2011	0.462	0.692	1.395	1.647	1.545	1.003
2012	0.571	0.684	1.404	1.657	1.533	0.988
2013	0.636	0.762	1.492	1.665	1.569	1.117
2014	0.458	0.758	1.483	1.699	1.311	0.996
2015	0.676	0.847	1.431	1.674	1.296	0.997
2016	0.426	0.725	1.422	1.647	1.369	0.971
Mean	0.519	0.683	1.451	1.671	1.452	1.023
Panel B: NBR Expense						
	MM	FIX	ALL	EQUITY	MISC	COM
2008	0.539	0.596	2.956	1.628	0.810	N/A
2009	0.543	0.662	1.647	1.885	1.065	N/A
2010	0.511	0.625	1.789	1.799	1.388	1.404

2011	0.499	0.810	1.767	1.833	1.335	1.403
2012	0.451	0.776	1.723	1.782	1.810	1.832
2013	0.451	0.860	1.791	1.750	2.003	1.664
2014	0.424	0.763	1.781	1.997	1.947	1.553
2015	0.401	0.781	1.865	1.836	2.020	1.640
2016	0.307	0.620	2.300	2.104	2.003	1.502
Mean	0.458	0.721	1.958	1.846	1.598	1.571

We analyze the mutual fund fees by mutual fund investment objectives. Table 3 demonstrates the cross-sectional yearly average of mutual fund fee classified by investment objectives. We find that both Brfunds and NBRfunds charges higher fees for Equity driven fund—equity fund and allocation fund. This finding is consistence with the full sample analysis from Table 1. In addition, the result shows that the money market funds charges lower fund fees

than any other groups for both BR funds and NBR funds.

Table 4 reports t-statistic test of expense ratio between two group of fund classified by the bank-mutual fund relationship for each fund's investment categories. BR is the BR and NBR is the NBR. Both t-statistic and P-value are reported in both Panels. Panel A reports the t-statistic of two tails test. Panel B reports the t-statistic of one tails test.

Panel A: Fund expense ratio's mean equality test between BR and NBR						
	MM	FIX	ALL	EQUITY	MISC	COM
T-statistic	1.660	0.823	4.364	4.536	0.938	18.352
P-value	0.135	0.434	0.002	0.002	0.376	0.000
Panel B: BR >NBR						
	MM	FIX	ALL	EQUITY	MISC	COM
T-statistic	1.660	0.823	4.364	4.536	0.938	18.352
P-value	0.068	0.217	0.001	0.001	0.188	0.000

The mean of expense ratio for BR and NBR are as shown in Table3

We further examine the difference between two groups of fund based on investment

objective and report the result in Table 4. The result in Panel A shows that we can reject the

null hypothesis of equal expense ratio for equity driven fund—equity fund and allocation fund, and commodity fund. However, we cannot reject the same null hypothesis among money market fund, fixed income fund, and miscellaneous fund. In Panel B, we further conduct the one-tail mean difference test. Our finding provides an evidence suggesting that the BR funds charge higher fees than the NBR funds for equity driven fund and commodity fund.

2. Mutual fund performance

In this section, we aim to explore the difference performance of funds based on their investment objective. The result in Table 5 demonstrates that although mutual funds risk differs by its investment objectives, we cannot reject the null hypothesis that all investment objectives differ in performance. This finding shows that approaching to the higher risk does not guarantee a higher return.

We further examine the mutual fund performance for each investment objective

controlling for bank-and non-bank relationship. According to Table 6, the result demonstrates that the BR funds generates lower return than NBR funds. The BR funds produce return by about 0.07% per week while NBR funds generate return by about 0.10% per week. Based on full sample analysis, the NBR funds produce the higher Sharpe ratio than BR funds. Despite the higher mean return of NBR funds, we cannot reject the null hypothesis of difference in this mean return at aggregate level. We further examine the difference performance between BR funds and NBR funds for each investment objectives. Table 6 shows the result of this analysis. We cannot reject the null hypothesis for any group of investment objective. This means that there is no difference between the performance of BR and NBR despite the results found in previous section recommend that the NBR charges higher fees on equity driven fund—equity fund and allocation fund, and commodity fund.

Table 5 reports ANOVA statistic test for mean equality test on mutual fund performance classified by fund's investment objective.

Groups	Sum	Total return _{i,t}	sTotal return _{i,t}	SH	F	P-value	F crit
MM	-0.049	-0.01%	0.00%	-0.089	1.029	0.398	2.215
FIX	0.112	0.01%	0.00%	0.026			
ALL	0.955	0.11%	0.04%	0.120			
EQUITY	1.299	0.15%	0.07%	0.122			
MISC	9.479	1.29%	12.11%	0.046			
COM	0.289	0.05%	0.05%	-0.011			

In sum, the findings in this section support that the information advantage hypothesis holds in Thai mutual fund industry. As suggested by information advantage hypothesis, the BR funds might strategically distribute the information between commercial bank and mutual fund. Hence, at the same level of return, BR funds earn the economics of scale due to lower information searching cost.

Table 6 reports t-statistic test on mutual fund performance between two group of fund classified by the bank-mutual fund relationship for each fund's investment categories. BR is the BR and NBR is the NBR. Panel A reports the t-statistic of two tails test. In panel B, the t-statistic are reported and *, **, *** denotes statistical significance at 10%, 5%, 1% level respectively

	Type	Mean	STD	SH	Max	Min	P-value
Full sample	BR	0.071%	0.69%	0.103	2.24%	-2.35%	0.618
	NBR	0.100%	0.94%	0.106	3.13%	-3.50%	
MM	BR	-0.02%	0.18%	-0.09	1.26%	-0.88%	0.992
	NBR	-0.02%	0.18%	-0.09	1.25%	-0.87%	
FIX	BR	0.01%	0.26%	0.022	1.95%	-1.63%	0.817
	NBR	0.01%	0.34%	0.031	3.58%	-2.55%	
ALL	BR	0.16%	1.35%	0.121	4.84%	-4.91%	0.907
	NBR	0.18%	1.48%	0.119	4.77%	-5.01%	
EQUITY	BR	0.23%	1.90%	0.121	6.57%	-6.92%	0.949

	Type	Mean	STD	SH	Max	Min	P-value
MISC	NBR	0.22%	1.77%	0.125	6.04%	-6.55%	0.741
	BR	0.02%	0.35%	0.068	1.44%	-1.00%	
COM	NBR	0.01%	0.52%	0.026	3.99%	-4.98%	0.883
	BR	-0.01%	1.90%	-0.01	5.79%	-8.37%	
	NBR	-0.03%	1.83%	-0.02	5.30%	-7.11%	

Conclusion

In this study, we attempt to answer a simple question “Does high fees matter?” Our finding shows that despite the mutual fund charges different fee differed by its investment objective, their performance cannot reproduce the superior performance and reward the greater investment risk. For instance, despite the mutual funds charged fees varied by its investment objective, we find insignificantly difference between the performances on each fund categories. Further, we scrutinize whether the bank and mutual fund association has an effect on the relationship between mutual fund fee and its performance. Our finding demonstrates that although NBR funds burdens higher fees, there is no different in performance from BRfunds charging lower fees at both aggregate and investment objective level. Our results demonstrate that the information advantage holds in Thai mutual fund industry. Besides, according to information advantage hypothesis, the finding here suggests that the BRfunds earn the economics of scale. As a

consequence, the BRfunds have a lower funds expense ratio given the same level of investment performance. Furthermore, the searching cost hypothesis can explain our result. Since, both individual and institutional investors mostly do the business via bank branch and other bank channel in bank-based economic. Furthermore, the larger number of bank’s branch allow BRfunds to offer more convenience service to mutual fund investor. As a consequence, BRfunds have a lower promoting cost. Therefore, BRfunds have a lower expense ratio than NBR funds.

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