

## **Determinants of Growth for Thai Mutual Fund Industry**

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### **Abstract**

Thai mutual funds industry has grown drastically and become an alternative channel of savings and investment in the past five years, from 2006 to 2010, particularly as real deposit interest rates remain in negative territory. At present, the country's assets under mutual fund management equal Bt1.704 trillion, or around 37 per cent of total household bank savings. Proportion of equity funds to total assets under management of the industry rose from approximately 10 percent to 15 percent. Fixed income funds play an important role determining industry growth. It is therefore essential that all stakeholders in the capital market, especially investors, understand the nature of the mutual fund industry, both in terms of the variety of products and services, and the real advantages it offers. It is especially important when Thai capital market is approaching more financial liberalization in 2015. Three determinants of mutual funds growth besides funds performance are distribution channel, reputation of parent company, and administrative expenses. Therefore, asset management companies with better distribution channel or better access to clients through a bank's nationwide branches and with more efficient complete financial services from their parent companies leading to more efficient cost management have higher growth opportunities. Possessing the three determinants, a company can grab bigger market shares in both the fixed income fund sector and the equity/stock funds sector through cross-selling, even though it may charge clients comparatively higher fees with a lower rate of return (data compiled in 2008 and June 2010). Thai mutual fund industry is likely to face two major challenges. Firstly, due to limited mutual fund product diversification and slow product development, especially if foreign-owned asset management companies, which focus more on product innovation, lose their competitive edge and ultimately leave the business. Secondly, Thai mutual funds may become too concentrated on simple short-term funds, which benefit from tax privileges relative to bank deposits. However, given the challenge of Thailand's ageing society, which will need savings and investment with high long-term returns, relying on these types of product will not enable us to meet the future burden. Therefore, it may be time for stakeholders in Thai capital market start asking how they can help develop the mutual fund industry to serve Thai investors in a more efficient way.

**Keywords:** Mutual Funds, Growth determinants, Asset Management Corporation, Bank Related, Tax Benefit

## 1. Introduction

Aging society is approaching as life expectancy at birth of population<sup>1</sup> is higher and proportion of elderly to total population is forecasted to increase drastically. As documented by Population Division of the Department of Economic and Social Affairs of the United Nation Secretariat, World Population Prospects: 2008 Revisions, proportion of elderly population (60 years or more) to total population will increase from 11.5%, 9.9%, 22%, and 30.5% to 21.6%, 16.7%, 29.3%, and 37.9% for Thailand, Asia, Europe, and Japan, respectively. The major concern is the adequacy of one's wealth and savings serving their life styles after the retirement. Various alternatives of savings serve long term saving purpose such as long-term deposit, life insurance, provident and pension funds, and asset management via private or mutual funds. For an individual to invest or save his/her wealth for retirement, an annuity of investment or saving has to be made. This implies that investor or an individual must have known income so that saving or investment plan can be performed. However, proportion of Thai work forces as full time employees, in this study we call "in-the-system work force", during 2006 and 2009 is low at approximately 25%<sup>2</sup> as shown in Table 1. Thus, planned investment for long term purpose is a challenging task.

**Table 1:** Proportion of Thai work force, In-the-System, to total work force

Item	2006	2007	2008	2009
Working Force	36,257,305.00	36,872,665.00	37,549,994.00	38,251,602.00
In-the-System	8,860,180.00	9,182,167.00	9,293,553.00	9,360,059.00
Percentage	24.44%	24.90%	24.75%	24.47%

**Source :** National Statistical Office of Thailand

Major of Thai work force (75% of total work force) is not eligible to join systematic long term saving plan such as provident or pension fund. Another two alternatives of long-term investment purposes namely insurance and asset management services via either private or mutual funds become popular choices among Thais. Services provided by professionals or fund managers serve different investors with various risks and return preferences. Wide variety of products offered to potential investors ranged from deposit substitution products namely money market funds and term funds to sophisticated funds incorporating derivatives with primary financial assets such as bonds and stocks are offered to different risk preferences investors. As depicted in Table 2, proportion of Asset Under Management (AUM) to household deposit has increased from 21.65% in 2006 to 37.11% in 2010.

**Table 2:** Proportion of Asset Under Management (AUM) to household deposit

Item	2006	2007	2008	2009	2010
AUM	910,495.53	1,289,612.44	1,223,949.06	1,534,762.20	1,704,503.37
HOUSEHOLD DEPOSIT	4,206,316.00	4,118,874.00	4,494,225.00	4,434,608.00	4,593,095.00
AUM/DEPOSIT	21.65%	31.31%	27.23%	34.61%	37.11%

**Source :** Bank of Thailand and Association of Investment Management Companies

<sup>1</sup> Population Division of the Department of Economic and Social Affairs of the United Nation Secretariat, World Population Prospects: 2008 Revisions reported that Thai population will have a longer life expectancy by comparing life expectancy of Thai population who were born during 2010 and 2015 with those who were born during 2030 and 2035 life expectancy will increase from 69.9 years to 74.6 years. Not only Thai population but world population will have the same trend of longer life expectancy as well. The report compared life expectancy of population born during 2010 and 2015 with that of population born during 2030 and 2035 and documented that life expectancy of world population is longer; from 70.5 to 74.5 for Asian population, from 76.1 to 79.6 for European, and from 83.7 to 85.8 for Japanese.

<sup>2</sup> For more detail, information can be retrieved from National Statistical Office of Thailand website.

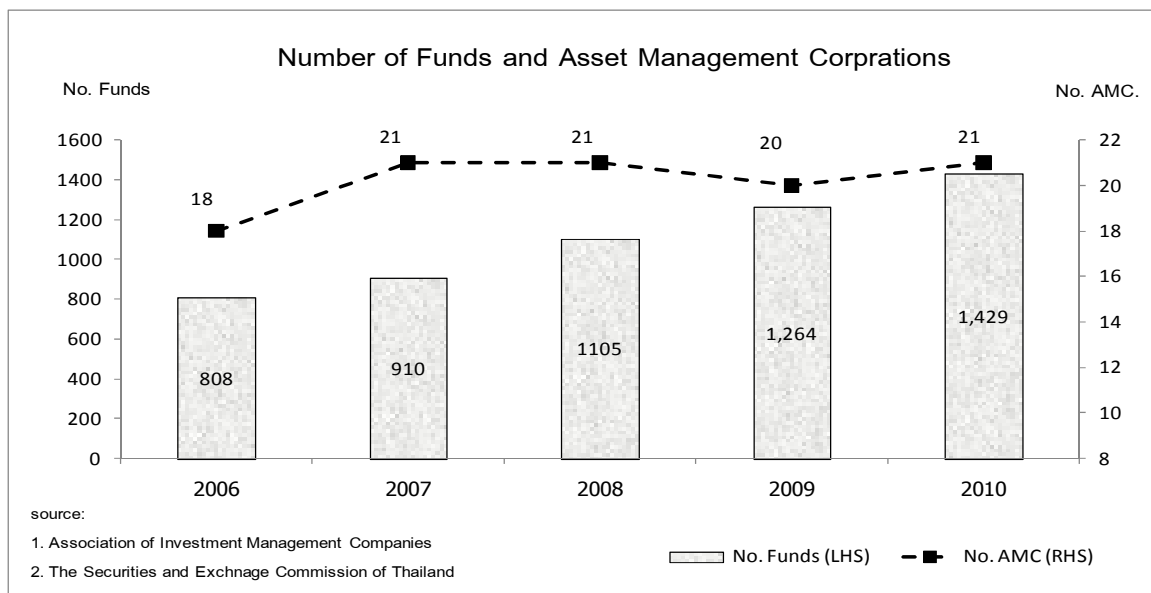
The focus of this study is exploring determinants of mutual fund growth as its impressive growth, Compound Annual Growth Rate (CAGR) of 16.97%. As documented by Ramasamy and Yeung (2003), growth of mutual fund industry among emerging markets is expected to grow at the rate of double digit by 2030. There are extensive research collections of U.S. mutual fund or US funds investing in emerging markets i.e., Sharpe (1966), Petersen (2001), Kaminsky et.al (2001), and Ramasamy and Yeung (2003). However, research on emerging mutual funds and their determinants is still limited.

This study is distinct from pervious studies in two folds. Firstly, this study fills the gap of limited research on emerging mutual funds. Secondly, this study explores determinants of mutual fund growth at the asset management corporation level. Research on emerging market mutual funds are performed at mutual fund level. Nazir et.al (2010) assessed determinants of mutual fund growth focusing on equity funds in Pakistan. Analysis of Thai mutual fund industry and competitive situation are elaborated in section 2. Data, model, and methodology are discussed in section 3. The last section concludes the paper together with comments and policy implication.

## 2. Analysis of Thai Mutual Fund Industry and its Competitive Situation

Asset Management Industry of Thailand is founded from the collaboration between Thai government and International Finance Corporation (IFC) in 1975. The first mutual fund was offered in 1977. Number of Asset Management Corporation (AMC) in Thailand increased from 8 AMC in 1992 to 21 AMC in 2010. While number of mutual funds increased from 37 funds in 1992 to 1,429 funds in 2010.

**Figure 1:** Description of Asset Management Corporation in Thailand



Four major types of mutual funds offered by Thai AMCs are fixed income, equity, mixed, and property funds. Table 3 exhibits size (in million Baht) and proportion of each fund type offered by asset management corporations in Thailand. Two types of fund dominate asset management industry in Thailand namely, fixed income and equity funds. Fixed income funds outweigh other types of funds by having the largest amount of asset under management (AUM) with drastic growth from 640 billion Baht in 2006 to 1.23 trillion Baht in 2010<sup>3</sup>. The interpretation is that the impressive growth of Thai mutual fund industry is driven by growth in fixed income funds.

<sup>3</sup> Bond trading volume in Thailand is ranked as the highest percentage change in the world, World Federation of Exchange Market Highlight 2010.

**Table 3:** Size (million Baht) and proportion of each fund type

Period	Fixed	Equity	Mixed	Property	Total
2006	639,938.33	98,945.35	125,353.29	46,258.57	910,495.53
Proportion	70.28%	10.87%	13.77%	5.08%	100.00%
2007	946,753.20	165,958.75	120,180.67	56,719.82	1,289,612.44
Proportion	73.41%	12.87%	9.32%	4.40%	100.00%
2008	889,965.14	118,618.55	147,961.65	67,403.72	1,223,949.06
Proportion	72.71%	9.69%	12.09%	5.51%	100.00%
2009	1,150,215.16	191,898.82	113,781.02	78,867.19	1,534,762.20
Proportion	74.94%	12.50%	7.41%	5.14%	100.00%
2010	1,235,175.05	261,104.11	120,175.67	88,048.55	1,704,503.37
Proportion	72.47%	15.32%	7.05%	5.17%	100.00%

Source : Securities and Exchange Commission of Thailand

AUM of the equity funds increased nearly three folds from approximately 99 billion Baht in 2006 to 261 billion Baht in 2010. Unlike developed capital markets, proportion of equity funds to total asset under management of the industry in Thailand is stable around 11% and 15% in 2006 and 2010. Higher value of asset under management of equity funds can be decomposed into two factors, which are valuation and new flow factors. As Thai stock market index (SET) had increased from the vicinity of 700 points in 2006 to the level of 1,000 points in 2010, higher value in equity funds may arise from higher in value of stocks held in each equity funds or we term such event as valuation effect. Another possibility of higher in value of equity funds is new investment in the capital market termed as new flows. These two factors are taken into account in determining growth factors of Thai mutual funds industry as discussed in model and methodology section.

Table 4 exhibits compositions of major category of Thai mutual fund, fixed income and equity funds, based on types of products. Equity mutual funds can be categorized into two major types as shown in Panel A of Table 4. The first type of equity mutual fund does not provide tax benefit by which investors are subjected to dividend tax earned from equity mutual funds. Funds categorized as the first type of equity mutual funds categorized on products are equity index fund (INDEX), general stock funds (STOCK), partial foreign equity fund, equity foreign investment fund, equity feeder fund, and exchange traded funds (ETF). The second type of equity mutual fund provides tax incentive for investors by which the amount invested in this type of equity mutual funds can be used as a deductible taxable income<sup>4</sup>. Funds categorized as the second type of equity mutual funds are Long Term Equity Funds (LTF) and Retirement Fund (RMF). Proportion of AUM from LTF and RMF to total equity AUM had increased from approximately 30% (30 billion Baht) in 2006 to approximately 55% (145 billion Baht) in 2010. Proportion of general stock equity fund (STOCK) to total equity AUM reduced from approximately 54% in 2006 to approximately 24% in 2010 while total AUM of equity has increased from approximately 99 billion Baht in 2006 to 261 billion Baht in 2010. The interpretation of this finding is that Thai equity mutual fund growth determinant is tax incentive.

Panel B of Table 4 exhibits sub-category of fixed income mutual funds. Money Market Fund (MMF), Foreign Fixed Income Fund<sup>5</sup> (FIF), and General Fixed Income Fund<sup>6</sup> (FIXED) are three major types of fixed income funds. Amount invested in domestic fixed income funds decreased from approximately 379 billion Baht (61.37% of total fixed income AUM) to approximately 240 billion Baht (19.44% of total fixed income AUM). FIF increased from approximately 284 billion Baht (30% of total fixed income AUM) to approximately 487 billion Baht (39% of total fixed income AUM). Money market funds have grown impressively from 118 billion Baht (19% of total fixed income

<sup>4</sup> According to Thai tax department, each individual is allowed to deduct taxable income up to 15% of total taxable income if invested in Long Term Equity Funds (LTF) or Retirement Funds (RMF).

<sup>5</sup> For a clearer fixed income fund behavior, we define FIF as the sum of partial investment fixed income fund and foreign investment fixed income funds.

<sup>6</sup> General Fixed Income Funds (FIXED) is fixed income mutual funds invested domestically only.

AUM) to 433 billion Baht (35% of total fixed income AUM). Thai Fixed income mutual growth is driven by the growth of FIF and MMF. The explanation of this phenomenon is that during 2006 and 2010, low or unattractive deposit rate in Thailand together with the relaxation of foreign currency exchange policy of Bank of Thailand, short-term fixed income fund or MMF and foreign fixed income (FIF) gain their popularity among Thai investors.

Equity and fixed income funds play an important role for the impressive Thai mutual fund growth. With an in depth analysis, we found two major facts. Firstly, Thai mutual fund industry is concentrated in fixed income mutual funds especially short-term money market funds. Secondly, approximately 50% of the AUM invested in Thai equity mutual funds are from LTF and RMF or growth in equity mutual funds is affected by tax incentive. Further in depth analysis aiming at indicating reasons of product concentration on fixed income funds and how tax incentive help increase AUM of equity funds is performed by categorizing types of asset management corporations (AMC) into five categories as follow.

1. AMCs that are related to Thai commercial banks (BR): SB, MB, and LB<sup>7</sup>
2. AMCs that are not related to Thai commercial banks (NBR): T and F

**Table 4:** C funds growth.

Panel A: Equity Funds								
Year	Equity Index Fund (INDEX)	Long Term Equity Fund (LTF)	Retirement Fund (RMF)	Exchange Traded Fund (ETF)	General Stock Fund (STOCK)	Partial Foreign Equity Fund (PF EQ)	Equity Foreign Investment Fund (FIF EQ)	Equity Feeder Fund (EQ FEED)
2006	6,810.35 (6.95%)	25,186.40 (25.69%)	4,577.05 (4.67%)	-	52,544.80 (53.60%)	-	-	8,916.02 (9.09%)
2007	8,668.99 (5.22%)	49,408.05 (29.77%)	7,613.31 (4.59%)	2,396.41 (1.44%)	66,189.10 (39.88%)	-	939.22 (0.57%)	30,743.67 (18.52%)
2008	10,297.20 (8.68%)	45,462.56 (38.33%)	6,724.30 (5.67%)	2,343.91 (1.98%)	38,280.00 (32.27%)	116.02 (0.10%)	522.71 (0.44%)	14,871.84 (12.54%)
2009	14,943.81 (7.79%)	85,497.68 (44.55%)	11,304.37 (5.89%)	2,956.32 (1.54%)	50,965.86 (26.56%)	98.21 (0.05%)	640.03 (0.33%)	25,492.53 (13.28%)
2010	21,099.89 (8.08%)	129,448.66 (49.58%)	16,012.01 (6.13%)	2,652.07 (1.02%)	61,394.54 (23.51%)	-	1,240.09 (0.47%)	29,256.85 (11.21%)

Sources: 1. Securities and Exchange Commission of Thailand  
2. Association of Investment Management Companies

Panel B: Fixed Income Funds								
Year	Principal Protection Fund (PPF)	Money Market Fund (MMF)	General Fixed Income Fund (FIXED)	Retirement Fund-Fixed Income (RMF FIXED)	Exchange Traded Fund – Fixed Income (ETF FIXED)	Partial Foreign Fixed Income Fund (PF FIXED)	Foreign Investment Fixed Income Fund (FIF FIXED)	Feeder Fund Fixed Income (FIXED FEED)
2006	102,256.48 (16.56%)	117,969.18 (19.10%)	379,047.92 (61.37%)	11,670.95 (1.89%)	5,361.46 (0.87%)	-	-	1,343.26 (0.22%)
2007	76,944.05 (8.13%)	301,019.13 (31.80%)	256,267.44 (27.07%)	16,047.02 (1.70%)	5,138.80 (0.54%)	37,750.87 (3.99%)	246,434.14 (26.03%)	6,996.92 (0.74%)
2008	44,358.97 (4.98%)	400,874.83 (45.04%)	189,923.30 (21.34%)	20,862.14 (2.34%)	5,568.48 (0.63%)	19,005.52 (2.14%)	203,730.19 (22.89%)	5,641.71 (0.63%)
2009	9,633.64 (0.84%)	504,596.28 (43.87%)	87,180.35 (7.58%)	28,961.35 (2.52%)	5,033.75 (0.44%)	14,067.99 (1.22%)	495,284.44 (43.06%)	5,457.36 (0.47%)
2010	16,087.75 (1.30%)	433,248.68 (35.08%)	240,146.75 (19.44%)	37,231.92 (3.01%)	4,429.02 (0.36%)	147,862.67 (11.97%)	339,080.42 (27.45%)	17,087.84 (1.38%)

Sources: 1. Securities and Exchange Commission of Thailand  
2. Association of Investment Management Companies

There are three sub-groups in BR based on size (AUM) namely small, medium, and large AMCs related to Thai commercial banks denoted by SB, MB, and LB, respectively. Two sub-groups in NBR are Thai AMCs and Foreign AMCs that are not relate to Thai commercial banks denoted by T and F, respectively. Table 5 exhibits market share of each type of AMCs based on products.

<sup>7</sup> There are 11 AMCs out of 21 AMCs that are related to Thai commercial banks. There are four, three, and four AMCs categorized as LB, MB, and SB, respectively.

**Table 5:** Market Share of each type of AMC based on products

<b>Panel A: Equity Mutual Funds</b>					
<b>Year</b>	<b>Market Share (Equity Mutual Funds)</b>				
	<b>LB</b>	<b>MB</b>	<b>SB</b>	<b>F</b>	<b>T</b>
2006	38.13%	22.71%	5.25%	21.67%	12.24%
2007	39.04%	22.76%	6.56%	20.41%	11.22%
2008	44.75%	21.12%	5.70%	20.05%	8.38%
2009	48.82%	19.95%	6.09%	18.22%	6.92%
2010	52.79%	18.58%	5.73%	16.69%	6.21%

<b>Panel B: Fixed Income Mutual Funds</b>					
<b>Year</b>	<b>Market Share (Fixed Income Mutual Funds)</b>				
	<b>LB</b>	<b>MB</b>	<b>SB</b>	<b>F</b>	<b>T</b>
2006	58.14%	18.41%	14.25%	4.31%	4.89%
2007	62.71%	18.97%	10.09%	3.88%	4.35%
2008	65.42%	19.69%	8.54%	3.63%	2.71%
2009	72.07%	16.12%	5.80%	3.49%	2.52%
2010	75.82%	15.63%	3.74%	2.19%	2.62%

**Sources:** Securities and Exchange Commission of Thailand

As documented in both panels of Table 5, AMCs related to large Thai commercial banks (LBs) dominate mutual fund industry. Large AMCs associated with Thai commercial banks (LBs) have largest market share in both fixed income and equity funds. For equity mutual funds, LBs possess 38.13% market share in 2006 and their market shares grow to 52.79% in 2010. The same pattern of high growth in market share of LB is also found for fixed income mutual funds, 58.14 to 2006 to 75.82% in 2010. Strong distribution channel of commercial bank is one of the mutual growth determinants. As commercial banks provide full coverage in financial services or one stop service, therefore branches of Thai commercial banks facilitate BR or AMCs associated with Thai banks reach their potential investors easily. Hence, the explanation for mutual fund product concentration is that commercial banks extend their capital market arms via AMCs by selling short-term mutual funds of MMFs as deposit substitutes through their strong distribution channels.

**Table 6:** Market Share of specific equity product

<b>Year</b>	<b>Market Share (LTF and RMF-Equity Funds)</b>					
	<b>LB</b>	<b>MB</b>	<b>SB</b>	<b>F</b>	<b>T</b>	<b>Total BR</b>
2006	51.25%	16.48%	5.99%	11.55%	2.86%	73.71%
2007	58.64%	15.99%	5.78%	10.28%	2.74%	80.41%
2008	63.74%	14.14%	4.59%	8.19%	2.19%	82.47%
2009	67.31%	14.76%	4.60%	7.87%	1.47%	86.67%
2010	67.96%	14.61%	4.45%	7.77%	1.38%	87.02%

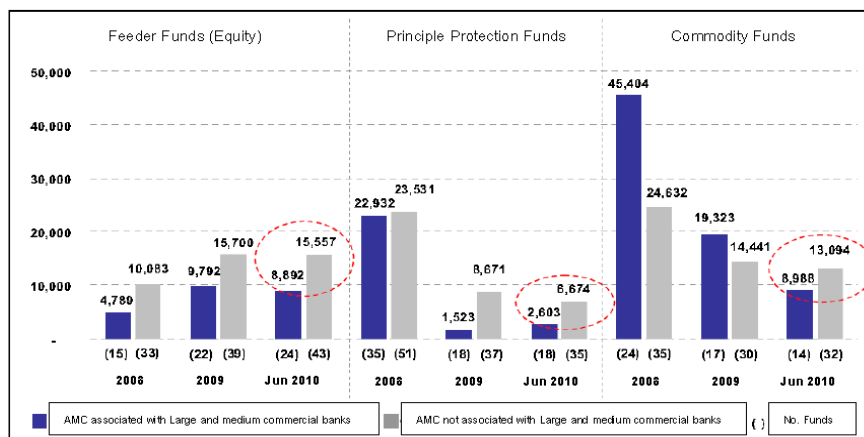
**Sources:** Securities and Exchange Commission of Thailand

Large proportion in total equity AUM is asset under management of LTF and RMF-equity funds as documented in Table 4 Panel A. LBs have largest market share in LTF and RMF-equity throughout 2006 to 2010. LTF and RMF-equity market shares of LBs have grown from 51.25% in 2006 to 67.96% in 2010. LTF and RMF-equity gain their popularity via commercial bank distribution channels as indicated in the last column of Table 6. Market share of all AMCs related with commercial banks (BR) increased from 73.71% in 2006 to 87.02% in 2010. The findings lead to the conclusion that distribution channel or being an AMC associated with commercial bank is a key determinant of equity mutual fund growth.

Figure 2 demonstrates that large and medium AMCs associated with commercial banks have no incentive to offer complicated products to their customers. Therefore, product concentration in MMF or deposit substitute products is observed. Small AMCs and AMCs without commercial bank

associations offered more complicated products such as commodity funds, principal protection funds, and equity feeder funds.

**Figure 2:** AUM and number of specific funds



Sources: Securities and Exchange Commission of Thailand

To conclude this section, given full financial services of commercial banks, AMCs associated with commercial banks (BR) dominate mutual fund industry in Thailand. Three determinants of mutual funds growth besides funds performance are distribution channel, reputation of parent company, and effective communication between potential investor and fund representative. Therefore, asset management companies with better distribution channels, better access to clients through a bank's nationwide branches, and more efficient complete financial services from their parent companies have the advantage. Possessing the three determinants, a company can grab bigger market shares in both fixed income and equity funds through cross selling.

### 3. Data, Model and Methodology

#### 3.1. Data and Literature Review

Asset management industry provides services and investment products to diverse clients such as individuals, corporations, government pension funds, provident and pension funds with various investment goals. Moreover, asset management plays an important role in saving and investment activities. Asset management services ranging from private investment fund for high net worth investors, provident and pension funds for the systematic long term investment and mutual funds for individuals with constraints in time, information, investment knowledge, and market sentiments. Mutual funds play an essential role in channeling excess resources such as savings in the economy of both individual and institution investors. Pooling small savings from a large number of investors and investing in a well diversified portfolio via a well structure investment plan, mutual funds meets its primary goal.

In the developed capital market, AMCs offer wider varieties of fund objectives and policies responding to investor risk preferences. Specialized equity funds focus on narrow industry segments dominate U.S. asset management industry (Bogle (2005)). Management fees of equity funds can be viewed as the indicator of security selection and portfolio management skills of fund managers. Nazir and Nawaz (2010) documented that higher management fees lead to higher total fund returns reflecting in higher risk adjusted return or Sharpe's ratio.

Performance of mutual funds is generally measure by Sharpe's ratio given a specific benchmark return either set by industry or fund policy. Measuring fund manager skills in selecting financial securities can be observed from abnormal return generated from a specific fund so called

alpha return. However, in emerging markets risk and expected return tradeoff leaves some room for asset management to earn an impressive return. Bogle (2004 and 2005) documented that benefit and returns generated by asset management companies have shifted from their true owners to managers and directors of the mutual funds<sup>8</sup>.

Asset management industry in Thailand has followed the omega model as defined by Bogle (2004) by which the distribution of returns and benefits from managing mutual funds are explored. As Thailand is the bank base economy, major Thai asset management companies are commercial bank capital market arms. We defined asset management companies (AMC) associated with commercial bank as bank related (BR) AMC. Often, questions regarding products variety and competitive situation among Thai AMC are raised and there is no research explores or answers the aforementioned questions.

## **3.2. Data, Model, and Methodology**

### **3.2.1. Methodology and Data**

The study aims at indicating determinants for Thai mutual fund growth based on two disciplines. The first discipline is the exploratory of Thai mutual funds via descriptive study or fact finding which indicates Thai mutual funds structure in terms of product concentration and the competitive situation as discussed in the last section. The second discipline is econometric model namely fixed effect model testing whether management fees, administrative fees, and other determinants affect the mutual fund growth. Regression model that controls for asset turnover, size of mutual fund, and expense ratio of the fund other than management fees is used as a tool.

Data ranges from January 2006 to December 2010 covering all AMCs. Information regarding net asset values (NAV), asset under management (AUM), and fund categories are obtained from two major sources, the securities and exchange commission of Thailand (SEC) and the association of investment management companies (AIMC) websites. NAV and AUM capture returns generated by AMCs or mutual funds.

Exploring macro view on mutual fund growth as deposit substitution or as an alternative investment, information on deposit amount and deposit rates are drawn from Bank of Thailand website. Assessing growth determinants based on market benchmark, Stock market index is obtained from Stock Exchange of Thailand. Superior fund performance due to outstanding securities selection skills of fund managers come with higher price or higher management fees (Nazir and Nawaz (2010), Livingston and O'Neal (1998), and O'Neal (1999)). Details on fee charges of each fund are collected from fund prospectus. U.S. Mutual fund Characters has changed from well-diversified portfolio scheme to focus funds, as investors perceive that investing in a fund is the same as buying a share. Thus, asset turnover of a fund represents liquidity in the market. Financial statements of each AMCs and funds provide information on asset turnover ratio, expense ratio, and administrative expenses.

As reported in the financial statements of each AMC, fund expenses can be divided into management fees and administrative fees. Expense ratio is the ratio between total fund expenses to fund's assets. Administrative or operating expense excluded management fees of AMCs managing large number of funds are considered to be constant. Thus, when management fee is excluded, fund expense ratio is lower. Fund expenses excluded management fees indicate fund operation efficiency. Management fees measures security selection skills of fund manager. In the other words, management fees paid to specialized equity fund manager exhibits superior fund performance observed in the current period and persists in the future called mutual fund performance persistence (Brown, Goetzman, Ibbotson, and Ross (1992), Brown and Goetzman (1995, 1997), and Ramasamy and Yeung (2003)).

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<sup>8</sup> Bogle (2004 and 2005) defined the truly mutual funds as fund that organized, operated, and managed by the owners as the alpha model and funds that managed by separated professionals or management company as the omega model.



Thai financial market structure is considered to be a bank based. Leading AMC's are commercial bank subsidiaries or related firms. Hence, Thai mutual fund industry is dominated by two primary fund types, which are fixed income funds (deposit substitute products) and equity funds (Nathaphan (2010)). Determinants for Thai mutual funds growth should take into account other factors besides management fees, i.e., distribution channel, type of AMC's (bank related and non bank related), etc.

### 3.2.2. Growth Definition

Mutual fund growth ( $G_i$ ) is measured from AUM growth of each AMC taken into account returns generated. Growth in asset can be decomposed into two factors, which are new flows and returns generated ( $R_i$ ). Each AMC manages a large number of different characteristic funds. For example, an AMC manages various fixed income funds, equity funds, mixed funds, and property funds. Return determining AMC's asset growth is defined as benchmark returns given its portfolio structure. Benchmark for equity return is derived from return on Thai stock market, SET index return. Benchmark for fixed income return is the weighted average deposit rate of the five largest commercial banks in Thailand. The growth of mutual funds and benchmark return from time t-1 to t is defined as:

$$G_{i,t} = \frac{(A_{i,t} - A_{i,t-1}(1 + R_{i,t}))}{A_{i,t-1}} \quad (1)$$

$$R_{i,t} = w_{i,t}^e (R_{SET,t}) + w_{i,t}^f (R_{deposit,t}) \quad (2)$$

Where:  $G_{i,t}$  = AMC's or fund growth due to new investment from time t-1 to time t

$A_{i,t}$  = Asset at time t

$R_{i,t}$  = benchmark return

$w_{i,t}^e$  = weight of equity funds in an AMC portfolio

$w_{i,t}^f$  = weight of fixed income funds in an AMC portfolio

$R_{SET,t}$  = benchmark return on stock exchange market

$R_{deposit,t}$  = weighted average deposit of the five largest commercial banks

$Asset_{i,t}$  are the net asset under management (AUM) at time t. Since AUM growth may arise from returns generated, equation 1 eliminates the growth due to such returns and exhibits real growth arises from new flows.

### 3.2.3. Model

According to the nature of the data used, each variable is observed across AMC and time, fixed effect model allowing for variation in the intercept term taken into account type of AMC reflecting comparative advantage on distribution channel. Slope coefficient is assumed to be fixed across AMC as explanatory variables is affected by demand of the market by which all AMC are competing in. The regression model is shown below.

$$G_{it} = \beta_0 + \beta_1 Ret_{i,t} + \beta_2 D_1 + \beta_3 D_2 + \beta_4 D_3 + \beta_5 Fee_{it} + \beta_6 Admin_{it} + \beta_7 Size_{it} + \epsilon_{i,t} \quad (3)$$

Where:  $G_{i,t}$  = AMC<sub>i</sub> growth due to new investment from time t-1 to time t

$Ret_{i,t}$  = AMC's Return

$D_1$  = dummy variable whose value is 1 if AMC<sub>i</sub> is related to Thai commercial Bank and 0 otherwise

$D_2$  = dummy variable whose value is 1 if AMC<sub>i</sub> is related to Foreign commercial Bank and 0 otherwise

$D_3$  = dummy variable whose value is 1 if AMC<sub>i</sub> is a Thai AMC and NOT related to commercial bank and 0 otherwise

$Fee_{i,t}$  = management fee charge by AMC<sub>i</sub>

$Admin_{i,t}$  = expense ratio of AMC<sub>i</sub> excluding management fee

$Size_{i,t}$  = size of AMC<sub>i</sub> or ln(Asset<sub>i,t</sub>)

$\epsilon_{i,t}$  = error term

Sign of  $G_{i,t}$  indicates relationship between mutual funds growth at the AMC level and explanatory variables. Effect of AMC types is reflected in intercept coefficient. Fee charged by AMC indicates fund manager skills expected to have positive sign with growth. Fund manager of AMC<sub>i</sub> possesses superior security selection skill induces higher return than others. Hence, investors tend to invest in the outperformed funds managed by AMC<sub>i</sub>. The sign of relationship between mutual fund growth of the AMC<sub>i</sub> and Fee<sub>i,t</sub> is expected to be positive sign. Ret<sub>i,t</sub> is AMC's return calculated from net income divided by total asset under management of the AMCs. Fund with good performance attracts more investors which in turn raises AMC's asset growth. Hence, sign of relationship between Ret<sub>i,t</sub> and mutual growth is expected to be positive.

Administration expense ratio is calculated by deducting total expense with management fees paid to fund managers divided by AMCs' asset under management. Total expense includes all fees that AMCs paid to fund managers (management fees) including trading cost, advertising expense, and other expenses paid during the period. The higher the administrative expenses indicate high operating cost leading to lower growth. Negative relationship between growth and administrative expense is expected. Size of an AMC<sub>i</sub> is the natural log of AMC's assets. The larger the size indicates the older the AMCs. AMCs operates longer have larger customer base. Hence, it is easier for the long history AMC to sell its products and has higher growth. Relationship between growth and size of AMC is expected to be positive.

### 3.3. Determinants of Mutual Fund Growth

Indicating Thai mutual fund growth determinants as discussed in the last section can be performed with fixed effect panel data model. Comparing empirical results between fixed effect and ordinary least square helps separating effects of AMC types on mutual fund growth. There are 171 semi-firm years in this study ranging from June 2006 to December 2010. Observations from each AMC are stacked across periods of study.

Descriptive statistics reported in Table 7 exhibits that AMCs associated with Thai commercial banks have largest average asset under management with the highest average growth rate at 6.24%. AMCs related to foreign commercial banks are the only type of AMCs with average negative growth at -3.82%. The possible explanations are limited distribution channel of foreign banks and close selling of mutual fund system in Thailand. Limitation in distribution channel of foreign commercial banks in Thailand caused by a regulation restricting that only one head office of foreign commercial banks is allowed. Moreover, branches of Thai commercial banks sell only mutual fund products of the AMC that related to them.

**Table 7:** Descriptive Statistics of each type of AMCs

Item	Thai BR	Foreign BR	T NBR	F NBR
AUM (in million Baht)	116,891.34	47,905.24	24,928.02	19,558.38
Total Cost / AUM	0.49%	0.41%	2.76%	1.06%
Growth	6.24%	-3.82%	5.63%	2.09%

AMCs associated with commercial banks have lower average Total cost per AUM which indicates higher efficiency in cost management. Even AMCs associated foreign commercial banks have lower cost ratio than those associated with Thai commercial banks but their growths are negative. This can be interpreted that among AMCs related to commercial banks, distribution channel is the key success factor of an AMC to expand its business.

**Table 8:** Results from Fixed Effect and OLS models

Explanatory Variable	Fixed Effect		OLS	
	Coefficient	T-stat	Coefficient	T-stat
Intercept	0.3220***	2.7820	0.2718**	2.3687
Ret	0.0386	1.2116	0.0447	1.4214
D1	0.0852**	2.0544		
D2	-0.0209	-0.3015		
D3	0.1184**	2.2284		
Fees	11.6394	1.1976	3.8798	0.4148
Admin	-2.3067***	-3.2449	-1.6629***	-2.4849
Size	-0.0617***	-2.7644	-0.0475*	-2.0076
F-Stat (p-value)	2.9425 (0.0062)		3.0746 (0.0179)	
Adjusted Rsquare	0.0745		0.0468	

\*\*\*Significant at 1%, \*\*Significant at 5%, \*Significant at 10%

Results obtained from fixed effect and ordinary least squares are indifferent. However, results based on fixed effect model yield more insightful interpretation. The outcomes from fixed effect model help indicating that three determinants affecting mutual fund growth are types of AMCs, Administrative expense ratio, and size of AMCs. Types of AMCs or dummy variables are used to represent distribution channel and parent reputation. Two dummy variables, D<sub>1</sub> and D<sub>3</sub>, representing AMCs with and without association with Thai commercial banks or Thai-owned AMCs attracts new flow leading to net mutual fund growth whereas foreign-owned AMCs have negative growth or lost their market share throughout the periods.

Effective cost management can be accessed from administrative expense ratio. Negative relationship between administrative expense ratio and mutual growth are confirmed as expected. This implies AMCs with higher effective cost management have higher growth. Positive relationship between funds growth and management fees is as expected but not statistically significant. Negative relationship between size of the AMCs and mutual fund growth is found. Effect from size is different from what the model expects. This may be interpreted as larger size AMCs are in business longer than those of smaller size. With larger size the increments in new investment of the larger AMCs may yields lower percentage growth.

#### 4. Conclusion and Policy Implication

Thai mutual funds industry has grown drastically with compound Annual Growth Rate (CAGR) of 16.97% during 2006 to 2010. Fixed income funds play an important role determining industry growth as proportion of asset under management of fixed income funds to total asset under management was approximately 72% in 2010. Among fixed income fund product, deposit substitute product or MMF takes the largest proportion of total asset under management of fixed income funds. Equity mutual fund growth was driven by large flow of investment from LTF and RMF due to tax incentive. Three determinants of mutual funds growth besides funds performance are distribution channel, reputation of parent company, and administrative expenses. Therefore, asset management companies with better distribution channel or better access to clients through a bank's nationwide branches and with more efficient complete financial services from their parent companies leading to more efficient cost management have higher growth opportunities. Possessing the three determinants, a company can grab bigger market shares in both the fixed income fund sector and the equity/stock funds sector through cross-selling, even though it may charge clients comparatively higher fees with a lower rate of return (data compiled in 2008 and June 2010).

Thai mutual fund industry is likely to face two major challenges. Most of sophisticated funds are developed and offered to Thai investors by foreign-owned AMCs both with and without association with commercial banks. The first challenge is less variety of mutual fund products and slow product

development as foreign-owned AMC's lose their competitive edge and ultimately may leave the business. The second challenge is that as aging society is approaching, investors may confront with an insufficient wealth covering retirements as mutual funds products are concentrated in short term funds or deposit substitute.

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