

SMART MONEY EFFECT OF RMF AND LTF FLOWS

Mr. Paween Praweenwongwut



จุฬาลงกรณ์มหาวิทยาลัย

CHULALONGKORN UNIVERSITY

บทคัดย่อและแฟ้มข้อมูลฉบับเต็มของวิทยานิพนธ์ตั้งแต่ปีการศึกษา 2554 ที่ให้บริการในคลังปัญญาจุฬาฯ (CUIR)
เป็นแฟ้มข้อมูลของนิสิตเจ้าของวิทยานิพนธ์ ที่ส่งผ่านทางบัณฑิตวิทยาลัย

The abstract and full text of theses from the academic year 2011 in Chulalongkorn University Intellectual Repository (CUIR)
are the thesis authors' files submitted through the University Graduate School.

A Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Science Program in Finance
Department of Banking and Finance
Faculty of Commerce and Accountancy
Chulalongkorn University
Academic Year 2015
Copyright of Chulalongkorn University

ผลกระทบของความฉลาดทางการเงินที่มีของกระแสเงินทุนในกองทุนรวมระยะยาวและกองทุนเพื่อ
การเกษียณอายุ



วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาวิทยาศาสตรมหาบัณฑิต

สาขาวิชาการเงิน ภาควิชาการธนาคารและการเงิน

คณะพาณิชยศาสตร์และการบัญชี จุฬาลงกรณ์มหาวิทยาลัย

ปีการศึกษา 2558

ลิขสิทธิ์ของจุฬาลงกรณ์มหาวิทยาลัย

Thesis Title	SMART MONEY EFFECT OF RMF AND LTF FLOWS
By	Mr. Paween Praweenwongwut
Field of Study	Finance
Thesis Advisor	Roongkiat Ratanabanchuen, Ph.D.

Accepted by the Faculty of Commerce and Accountancy, Chulalongkorn University in Partial Fulfillment of the Requirements for the Master's Degree

.....Dean of the Faculty of Commerce and Accountancy
(Associate Professor Pasu Decharin, Ph.D.)

THESIS COMMITTEE

.....Chairman
(Assistant Professor Anirut Pisedtasalasai, Ph.D.)

.....Thesis Advisor
(Roongkiat Ratanabanchuen, Ph.D.)

.....Examiner
(Narapong Srivisal, Ph.D.)

.....External Examiner
(Assistant Professor Nattawut Jenwittayaroje, Ph.D.)

ปวีณ ประวีณวงศ์วุฒิ : ผลกระทบของความฉลาดทางการเงินที่มีของกระแสเงินทุนใน
กองทุนรวมระยะยาวและกองทุนเพื่อการเกษียณอายุ (SMART MONEY EFFECT OF RMF
AND LTF FLOWS) อ.ที่ปริกษาวิทยานิพนธ์หลัก: อ. ดร. รุ่งเกียรติ รัตนบานชื่น, 31 หน้า.

งานวิจัยฉบับนี้ถูกจัดทำขึ้นเพื่อศึกษาความสามารถในการเลือกลงทุนของนักลงทุนประเภท
กองทุนในประเทศไทย เรียกว่า ความฉลาดทางการเงิน ใช้ข้อมูลกองทุนเปิดประเภทตราสารหุ้นและ
ลงทุนภายในประเทศในช่วงปี 2004 ถึง 2015 ผลการศึกษาได้ว่าเมื่อมองในภาพรวมของนักลงทุน
ทั้งหมดในประเทศ จะเกิดผลกลับกันจากความฉลาดทางการเงินซึ่งเรียกว่าความไม่ฉลาดทางการเงิน
อย่างไรก็ตาม เมื่อได้แบ่งกลุ่มของนักลงทุนออกเป็น 3 กลุ่มได้แก่ กองทุนรวมระยะยาว กองทุน
เพื่อการเกษียณอายุ และ กองทุนอื่นๆซึ่งไม่มีผลประโยชน์ทางภาษีส่วนบุคคล ความฉลาดทางการเงิน
ไม่มีหลักฐานที่เพียงพอที่จะสรุปว่าในแต่ละประเภทเกิดความฉลาดทางการเงินหรือไม่ ผลการศึกษานี้
มีส่วนช่วยสำคัญในการเตือนนักลงทุนประเภทกองทุนทั่วไปในประเทศไทย ให้ระวังการเลือกลงทุน
ในกองทุน



ภาควิชา การธนาคารและการเงิน

ลายมือชื่อนิสิต

สาขาวิชา การเงิน

ลายมือชื่อ อ.ที่ปริกษาหลัก

ปีการศึกษา 2558

5782984026 : MAJOR FINANCE

KEYWORDS: LTF / RMF / TAX EXEMPT / SELECTION ABILITY OF INVESTOR / SMART MONEY EFFECT / FUND FLOW

PAWEEN PRAWEEWONGWUT: SMART MONEY EFFECT OF RMF AND LTF FLOWS. ADVISOR: ROONGKIAT RATANABANCHUEN, Ph.D., 31 pp.

This study examines the short term mutual fund selection ability of investors in Thailand which calls “Smart money effect” Using the open-end domestic equity fund in Thailand between 2004 and 2015. The results indicate that the smart money effect don’t appear in the overall investor in Thailand. By the way, it shows the Dumb money effect. That is, they are not able to move their money into(out of) the future good(poor) performance. This paper separate the group of mutual fund into LTF, RMF (mutual fund which have individual tax benefit) and OTHER (mutual fund which don’t have individual tax benefit). However, after separate the group of investors in each type of fund, it isn’t show the strong evidence that the Smart money effect or Dumb money effect occur on each group of investors. On the other hands, the dumb money effect appears in only overall investors. This result is important to provide the useful information for regulators to review their rule and to remind the overall investors to care about their portfolio return.

จุฬาลงกรณ์มหาวิทยาลัย
CHULALONGKORN UNIVERSITY

Department: Banking and Finance Student's Signature

Field of Study: Finance Advisor's Signature

Academic Year: 2015

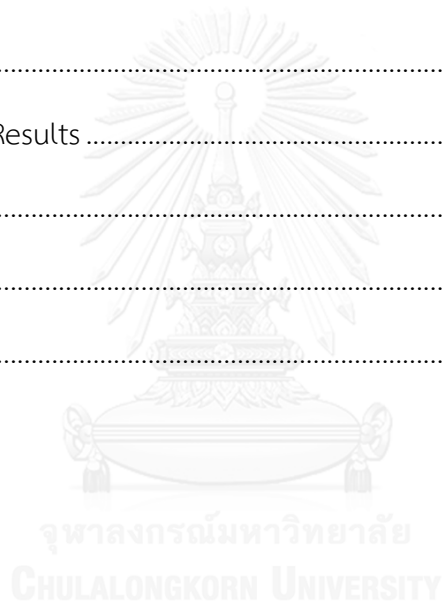
ACKNOWLEDGEMENTS

Thank you to every one who helping me in this research especially my classmate and my adviser.



CONTENTS

	Page
THAI ABSTRACT.....	iv
ENGLISH ABSTRACT.....	v
ACKNOWLEDGEMENTS	vi
CONTENTS.....	vii
1.Introduction.....	1
2. Literature review.....	5
3.Data.....	7
4. Methodology and Results	9
5.Conclusion.....	27
REFERENCES.....	29
VITA	31



1.Introduction

In this age, Thailand mutual funds play an important role in the financial market. Data from morning star Thailand show that in the year 2015, mutual fund asset is about 3.8 trillion baht and it is the portion around 0.25 percent in the SET's market. In 2004, the Government of Thailand established a special investment scheme which provides a significant tax reduction for any person with taxable income in Thailand, in return for making a minimum five-year investment in one or more specialized funds set up and managed by Thailand based money management firms. There are 2 types of fund such LTF and RMF. For LTF, the full tax advantage of investing in an LTF the investment must be held for at least five years calendar and can't be withdrawn without incurring substantial early withdrawal penalties. RMFs are identical to LTFs with the exception that withdrawals made prior to the taxpayer's 55th birthday are subject to substantial penalties, making investment in these funds most attractive to investors who are nearing or past their 50th birthday.

Although LTF and RMF funds force their investor to be the long term investor but LTF and RMF allow the investor to reinvest in the different fund in their group. Ex, LTF can reinvest in LTF and RMF can reinvest in RMF. However, LTF and RMF have the special obligation which is when the LTF and RMF investors reinvest the LTF and RMF in the different firm, they need to pay for the switching fee (the switching fee for each firm is different).

For the past decade, it shows that RMF and LTF's total net asset have increased sharply from 12.24 billion Baht to 166.290 billion Baht and 5.63 to 271.023 billion Baht respectively. So, what type of investors who invest in these kinds of funds? , It's seem that many LTF and RMF investors tend to invest in LTF and RMF for the Tax-exempt only and they don't remind that which fund is provide the good return. Then, it can say that LTF and RMF investor don't have the timing and selecting ability and "Smart money effect" calls this investor as "Dumb investor". So, due to this reason and the LTF , RMF fee characteristic. These can lead to interesting research question that are "Do LTF and RMF investors are Dumb investor in the Smart money effect? Gruber (1996)"

What is “Smart money effect”? Answer is the situation that investor can invest in the good fund and quit from the bad fund and call this investor as “Smart investor”. So, “Dumb investor” is the investor who uses the reverse investment style with “Smart investor”.

The recent paper tries to study whether investors are smart enough to identify and invest in the out-performing fund. Gruber (1996) has called this phenomenon as Smart money effect. After that, [1]Zheng(1999) has confirmed this effect and in 2008, [2]Keswani and Stolin are re-examined these by use the data set from UK. [3]Gruber(1996) and Zheng(1999) find that the out-performing funds are invested by a group of specialize investors. Interesting that Gruber (1996) has pointed out the future research in these areas by distinguishing a group of investors in the various dimensions such as Tax-disadvantage, sophisticated and institutional investors. In 2014, [4]Xunan-Feng has studied the smart money effect by separate the group of investor in institutional investor and individual investor. However, it doesn't have any papers which answer the question about Tax-advantage investors

are “Smart or Dumb” and the previous research don’t put the effect of fee. So, this study tries to answer this question and fulfill the research in this area.

The sample covers the on-going equity mutual fund from morning-star Thailand. This research separate fund into 3 groups such as LTF, RMF and Other and begins the research with the GT-measurement [5](Grinblatt and Titman 1993) to find the correlation between fund flow and future return. By the way, the GT-measure can’t extend the profit of mutual fund investor. Then I adapt the [1]Zheng (1999) trading strategy to examine the trading strategy in the LTF investors, RMF investors and Other investors. I use the expected flow to weight the portfolio in Zheng trading strategy and revise the expected flow model to capture the monthly effect due to the special characteristic of LTF and RMF mutual fund. This paper use the 1 month return in all models due to LTF and RMF fund is new in the Thailand mutual fund market and can collect data for just 10 years. So, if this paper uses the 5 year return to in line with the characteristic of the LTF and RMF, it will affect to the lack of data.

To sum up, this paper is study the smart money effect in the view of short term investment.

2. Literature review

Many studies about Smart money effect are [3]Gruber(1996), [1]Zheng(1999),Sapp and Tiwari(2004),and [2]Keswani and Stolin(2008).Gruber try to study that about the active manager can not add value. He finds the evidence that the group of sophisticated investor can identify and invest in the out performing fund and he call this phenomenon as ‘Smart money effect’. Then, Zheng(1999) confirm this effect and show the evident that the fund which is positive new money flow significantly outperform the negative new money flows fund and new flow into the small rather than big fund can be used to make risk-adjust returns. By the way, Sapp and Tiwari(2004) assign the outperformance to the momentum effect(Jegadeesh and Titman(1993)) and find that the smart money effect is an return continuation. In 2008, Keswani and Stolin re-study the smart money effect by use the data set from UK and find the evidence that the new money portfolio weighted by inflows is significantly beat the portfolio weighted by outflow. They also show that the smart money effect in UK appear with the fund buying only(not selling) of both individual

and institutional investors. They finally find the insignificant of smart money effect in Sapp and Tiwari(2004) to the use of quarterly data and weight. In 2014, [4]Feng et al has studied the smart money effect by separate the group of investor in institutional investor and individual investor. They find the evidence in China that Institutional investors are the smart investor and the individual investors are the dumb investors.

This paper makes two contributions. First, the typical mutual fund performance literature seen to focus about the selection ability of mutual fund manager (e.g. Jensen(1986), Grinblatt and Titman(1989), [3]Elton,Gluber and Blake(1996),Bollen and Busse(2005)) but this paper try to examine the selection ability of investor by use the smart money effect which can reflect the result into smart investor or dumb investor. This thesis also separate the group of investor into tax-advantage investor and tax-disadvantage investor unlike the research in this area which focus to separate investor into institutional investor and individual investor or Specialist and Non-specialist investor. Second, this paper use the dataset in Thailand due to the tax exempt fund(LTF,RMF) are play the significant role in this country and the LTF,RMF are new in Thailand mutual fund market since it is established in only

10 years. So, from my knowledge, this is the new study about smart money effect of LTF and RMF in Thailand. Then, it will shade the light on what type of investors in the Thailand mutual fund market. To summarize, this paper try to fill the void and thus help us to understand the fund investor in Thailand.

3.Data

3.1 Data and Descriptive Statistics

Collecting the data from “Morning star Direct” for the Net asset value (NAV), Load-adjusted return (Return which adjusted for front-end fee and back-end fee) and Total net asset value (TNA) in the monthly. The sample includes all of open-end, equity and domestic mutual fund. I exclude the remainder because the risk characteristic of these fund doesn't match with the return with I use for analysis in this paper. This paper separated the group of fund into 3 groups which are LTF, RMF and OTHER (Fund which exclude LTF and RMF).

To construct the cahart four factor model, this paper also use the data of set index from Thailand security market. The Period of both data sets are collected since 2004 to 2015 because The RMF and LTF were established in the year 2004 and to match the time horizon of data, the data from SET index should collect at the same period.

Table 1. Descriptive Statistic (till April 2015)

LTF	MEANS	SD	PERCENTILES				
			10	25	50	75	90
TNA(billion baht)	2.135632	4.331094	0.052529	0.184758	0.463451	1.909562	5.816383
NAV	15.93105	6.806794	9.55365	11.0311	14.1137	19.2261	24.81895
RETURN(monthly)	1.039169	5.800912	-6.3286	-2.16415	1.72658	4.667745	7.499135
Number of observations	4960						
Number of mutual funds	46						

RMF	MEANS	SD	PERCENTILES				
			10	25	50	75	90
TNA(billion baht)	0.791624	1.205627	0.016368	0.070561	0.315165	0.870921	2.309813
NAV	24.52562	17.44218	10.1605	12.42055	19.7156	28.5039	48.2937
RETURN(monthly)	1.176375	5.724361	-6.23597	-1.91789	1.744095	4.560605	7.52916
Number of observations	2748						
Number of mutual funds	33						

OTHER	MEANS	SD	PERCENTILES				
			10	25	50	75	90
TNA(billion baht)	0.68993	1.283035	0.062433	0.131029	0.283282	0.672645	1.572537
NAV	10.83669	10.85021	2.8849	4.5377	8.7697	12.4395	19.7956
RETURN(monthly)	0.928159	6.858987	-7.44183	-2.85206	1.48562	4.81897	8.22308
Number of observations	20487						
Number of mutual funds	213						

4. Methodology and Results

4.1 GT-measurement (Grinblatt and Titman(1993))

This measurement is used to estimate the selective ability of fund investors.

The assumption of this measurement is no mutual fund selection ability. Then the correlation between the next-period expected return and flow of the fund is equal to 0. However, if the result shows the number and it is positive, it means an investor has the good selection ability due to they can increase (decrease) their weight on the out-performing fund(low-performing fund). By the way, if it is negative, it means an investor has low selection ability.

$$GT\ measure_t = \sum_{i=1}^N R_{i,t+1}(w_{i,t} - w_{i,t-1}) \quad (1)$$

This paper separates the GT model into 3 groups such as LTF, RMF and OTHER. Where OTHER define the domestic equity fund which exclude the LTF and RMF fund.

$$GT\ measure_{LTF,t} = \sum_{i=1}^N R_{LTF,i,t+1} w_{i,t} - w_{i,t-1} \quad (2)$$

$$GT\ measure_{RMF,t} = \sum_{i=1}^N R_{RMF,i,t+1} w_{i,t} - w_{i,t-1} \quad (3)$$

$$GT\ measure_{OTHER,t} = \sum_{i=1}^N R_{OTHER,i,t+1} w_{i,t} - w_{i,t-1} \quad (4)$$

Where

$w_{i,t}$ = the portfolio weight in fund i at time t
 = TNA for fund i divide by TNA of all domestic equity fund

$w_{i,t} - w_{i,t-1}$ = GT weight

$R_{i,t+1}$ = the next period return of fund i.

$R_{LTF,i,t+1}$ = the next period return of LTF i.

$R_{RMF,i,t+1}$ = the next period return of RTF i.

$R_{OTHER,i,t+1}$ = the next period return of OTHER i.

Due to this paper developed the GT-measurement of each type of investor by use the specific data for each investor. For LTF investor, GT-measurement use data only in LTF fund. For RMF investor, using data in RMF fund. And for OTHER

investor, using fund with exclude LTF and RMF. So, the data from each group is totally separated unlike the previous study which using the same data set then it can see that the GT-measurement in this paper can reflect the value of GT-measurement in each group of investor.

The GT-measurement model can reflect the smart money effect of investor in the overall view. Table 2 present the means GT-measure by show in three groups which are LTF, RMF and OTHER. I use the monthly data to calculating the GT-measurement. The results indicate that the smart money effect is appear in the group of investors in OTHER group which show the significant p-value by t-test at 0.0682 or 10 percent significant level. However, the result of the LTF and RMF don't significant and can't reflect anything. Unfortunately, the results of GT-measurement are not all significant like Zheng's paper. By the way, the results of this paper still in line with hypothesis and can support the model in the next section. To sum up, this model show the smart money effect by use the correlation between future period return and GT-weight which reflect the overall smart money effect. The result indicates that OTHER investor show the smart money effect which calls smart

investor. By the way, LTF and RMF investor can't show the smart or dumb money effect in this model.

Table 2. Grinblatt and Titman(1993) performance measure(GT measure)

	GT measure	t-Statistics
LTF	-0.009728	-0.8351
RMF	-0.000146	-0.014
OTHER	0.0230074	1.499*

The table present the mean value of GT-measure for each type of mutual fund. *

indicate 10% significant

4.2 Unexpected flow

I follow Zheng(1999), Sapp and Tiwari(2004) and Keswani and Stolin(2008) to find the actual flow of each mutual fund.

$$\text{Actual flow}_{i,t} = TNA_{i,t} - TNA_{i,t-1}(1 + R_{i,t}) \quad (5)$$

Where

$\text{Actual flow}_{i,t}$ = Flow of fund i during time t

$TNA_{i,t}$ = TNA of fund i at the end of time t

$R_{i,t}$ = return of fund i during time t-1 to t

In this paper, I use the actual fund flow as a percentage change from the last period in Total net asset value (TNA) so,

$$\text{Actual flow}_{i,t} = \frac{TNA_{i,t} - TNA_{i,t-1}(1 + R_{i,t})}{TNA_{i,t-1}} \quad (6)$$

To construct the Zheng trading strategy, I use the unexpected flow to divide the group of fund into 2 cases which is a positive unexpected flow and negative unexpected flow. The unexpected flow is the difference between actual flow and

expected flow. For expected flow, it can be estimated by the lag of fund return and fund flow in the previous 12 months (Chevalier and Ellison,1997; Sirri and Tufano,1998; Coval and Stafford,2007). The normal form of unexpected flow from Fama and Macbeth(1973) is

$$\begin{aligned}
 \text{Actual flow}_{i,t} = a + \sum_{k=1}^3 b_k (\text{Actual flow}_{i,t-k}) \\
 + \sum_{h=1}^3 c_h (R_{i,t-k}) + \varepsilon_{i,t} \quad (7)
 \end{aligned}$$

Where $\varepsilon_{i,t}$ = unexpected flow of fund i in period t

However, due to LTF investor and RMF investor tend to have some specific characteristic of buy and sell .For LTF, the minimum holding period is 5 years calendar so investors in LTF tend to buy at the end of the first year and sell at the start of the fifth years. Then the investor in LTF can hold around 3-4 years of this strategy. However, for RMF investor, they need to hold the fund until they meet the retirement at 55 years old and they cannot quit from the long position until they reach the exact date and month which they invest in this fund. So, like the LTF

investor, RMF investor tends to buy the fund at the end of the year for exempt tax in that year. By the way, the quit period of these fund are different because LTF can quit from the fund in the first month, but RMF can only quit at the same month that they invest. For these reasons, I develop the unexpected flow equation to capture the month effect of these funds to find the exact fund flow. So, the new unexpected flow for LTF and RMF investor is

$$\begin{aligned}
 \text{Actual flow}_{i,t} = a + \sum_{k=1}^3 b_k (\text{Actual flow}_{i,t-k}) + \sum_{h=1}^3 c_h R_{i,t-k} + \varepsilon_{i,t} \\
 + \text{month dummies}
 \end{aligned} \tag{8}$$

Where month dummies try to capture the month effect.

The results of equation 8 are show in the table 3 and most of month dummies results are show the significant. [6] That mean the buy and sell behavior of Thai investors are fully correlates with the time.

Interesting that the investor in the individual tax exempt mutual fund (LTF and RMF) are have the abnormal buy power at the last quarter of the year especially

in the last month. For LTF, the month dummies coefficient of February to November are strict around 0.015. However, the coefficient is increase a lot on the last quarter of the years and in December the coefficient is at 0.1510. In the RMF group the results is in line with the LTF group which the coefficient of the last month is at 0.1094 and the average coefficient in the previous month is around 0.027. [7]This can explain that the investor of LTF and RMF may be buys the fund for exempt the individual tax in this year. So, it support the model in the next section ,which using the unexpected flow to weight the portfolio, by capture the real flow and can reflect more realistic smart money effect. This may be also support that the investor in the LTF and RMF group tend to buy the fund for tax exempt propose only and they don't mind about their return with show the dumb investor in smart money effect

Month dummies from table 3 are used for predict the residual from equation 8 which call unexpected flow. This unexpected flow will use for construct the trading strategies in the section 4.4. This paper use unexpected flow to weight the portfolio due to I try to capture the exactly realistic flow as much as possible to see the truth that is smart money effect is really occur in Thailand.

Table 3. Month dummies

Months	LTF	RMF	OTHER
February	0.0052 (0.532)	0.0145*** (0.009)	0.0066** (0.022)
March	0.0123 (0.134)	0.0130** (0.017)	0.0085*** (0.003)
April	0.0142* (0.085)	0.0219*** (0.000)	0.0078*** (0.007)
May	0.0234*** (0.005)	0.0256*** (0.000)	0.0116*** (0.000)
June	0.0295*** (0.000)	0.0250*** (0.000)	0.0147*** (0.000)
July	0.0156* (0.072)	0.0227*** (0.000)	0.0090*** (0.002)
August	0.0162* (0.055)	0.0208*** (0.000)	0.0140*** (0.000)
September	0.0194** (0.023)	0.0353*** (0.000)	0.0154*** (0.000)
October	0.0335***	0.0393***	0.0156***

	(0.000)	(0.000)	(0.000)
November	0.0425***	0.0444***	0.0162***
	(0.000)	(0.000)	(0.000)
December	0.1510***	0.1094***	0.0159***
	(0.000)	(0.000)	(0.000)
Con	-0.0194***	-0.0272***	-0.0159***
	(0.001)	(0.000)	(0.000)

This table present the monthly dummies variable of each type of fund from equation 8. *, ** and *** indicate 10%, 5% and 1% significant respectively.

4.3 Measurement fund performance

Follow by Zheng(1999) and Sapp and Tiwari(2004), I use[8] $\alpha^{Carhart}$ To

measure the return of the portfolios and recheck for the robustness result with[9]

α^{Jensen} and [10] α^{FF} .

Cahart (1997) 4-factors model

$$R_{i,t} - RF_t = \alpha_i + \beta_{i,RMRF} \times RMRF_t + \beta_{i,SMB} \times SMB_t + \beta_{i,HML} \times HML_t + \beta_{i,UMD} \times UMD_t + e_{i,t} \quad (9)$$

$$\alpha_{i,t}^{Carhart} = \alpha_i + e_{i,t} \quad (10)$$

Fama and French 3-factors model

$$R_{i,t} - RF_t = \alpha_i + \beta_{i,RMRF} \times RMRF_t + \beta_{i,SMB} \times SMB_t + \beta_{i,HML} \times HML_t + e_{i,t} \quad (11)$$

Jensen(1986) market-adjusted model

$$R_{i,t} - RF_t = \alpha_i + \beta_{i,RMRF} \times RMRF_t + e_{i,t} \quad (12)$$

Where

$R_{i,t}$ = return of mutual fund i in time t .

RF_t = risk free rate in time t .

$RMRF_t$ = $R_{m,t} - RF_t$, the excess market return in time t .

SMB_t = rate of return in the mimicking portfolio for the size factor.

HML_t = rate of return on the mimicking portfolio for the book-to-market equity factor.

UMD_t = rate of return on the mimicking portfolio for the momentum factor

4.4 Zheng(1999) Trading strategy

Due to GT-measurement can observe only aggregate investor and it can't show the return of a mutual fund. So, Zheng provide the trading strategy to examine the selection ability which has more confidential than GT-measurement. Then I develop the trading strategy which is consistent which Zheng for separate the group of investor into LTF RMF and Other. To sum up, I provide in 16 trading strategies.

Portfolio I: all funds with + unexpected flow weight by proportion of unexpected flow

Portfolio II: all funds with - unexpected flow weight by proportion of unexpected flow

Portfolio III: LTF with + unexpected flow weight by proportion of unexpected flow

Portfolio IV: LTF with - unexpected flow weight by proportion of unexpected flow

Portfolio V: RMF with + unexpected flow weight by proportion of unexpected flow

Portfolio VI: RMF with - unexpected flow weight by proportion of unexpected flow

Portfolio VII: OTHER with + unexpected flow weight by proportion of unexpected flow

Portfolio VIII: OTHER with - unexpected flow weight by proportion of unexpected flow

Where OTHER define fund, which exclude the LTF and RMF.

Each of portfolios shows the new flow in or flow out of funds. I reconstruct the portfolios at the end of each month. Then, I show the return of each portfolio by

use $\alpha^{Carhart}$ and check the robustness result by using α^{Jensen} and α^{FF} . I

compare the difference of alpha between positive new money portfolio and negative

new money portfolio to see whether alpha from the money flow in is more than

flow out or not. This paper gives the trading rule as the investors will hold the fund

follow by the pervious unexpected flow. For example, if in time 1 all fund have the

positive unexpected flow, in time 2, the investor in the group of positive unexpected

flow will buy fund follow by time 1 and the investor in the group of negative

unexpected flow will buy nothing and hold their asset as the cash. So, follow by the

previous example, the portfolio in time 2 of the negative fund will show the weight

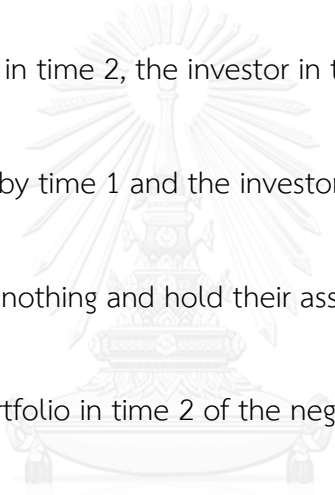
average return equal to 0.  **CHULALONGKORN UNIVERSITY**

Table 4 shows the result of cahart 4 factors model by use the portfolio from

Zheng trading strategy and reconstruct each portfolio at the end of the month. Also,

use the unexpected flow from later part to weight the portfolio in each month. For

portfolio I, $\alpha_{i,t}^{Carhart}$ is 0.0008, while portfolio II over performs by 0.0056 and the

difference between $\alpha_{i,t}^{Carhart}$ of portfolio I and II is significant at 10 percent and

the differential is equal to -0.0048. This means that the overall investors show the dumb money effect. By the way, when separate the group of investor into LTF, RMF and OTHER group, the smart money effect is not appear in any group due to the alpha differential are not significant.

In Panel B and Panel C show the alpha of Fama and French three factor model and Jensen model respectively. The result is in line with the cahart 4 factor model. By the way, the Jensen model of LTF group shows the significantly Dumb money effect at 10 percent significant and it is in line with the hypothesis.

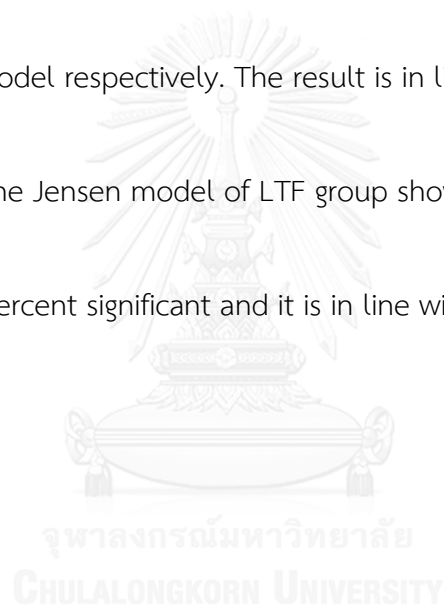


Table 4. Regression analysis of zheng trading strategies

Panel A: Carhart(1997) four factor model				
	All investors		LTF investors	
	Positive flow	Negative flow	Positive flow	Negative flow
	Portfolio I	Portfolio II	Portfolio III	Portfolio IV
Alpha	0.0008 (0.46)	0.0056 (2.47)	-0.0022 (-1.11)	0.0032 (0.83)
RMRF	0.7988 (20.3)	0.7012 (12.89)	0.7747 (16.52)	0.8393 (9.36)
SMB	-0.1076 (-2.26)	-0.1558 (-2.37)	-0.0747 (-1.26)	-0.0063 (-0.06)
HML	-0.1274 (-2.99)	-0.1701 (-2.89)	-0.0782 (-1.45)	-0.2351 (-2.27)
UMD	0.0053 (0.59)	-0.0210 (-1.7)	-0.0177 (-1.7)	-0.0285 (-1.44)
Adjusted R-square	0.6470	0.4402	0.8204	0.5641
Alpha difference	-0.0048*	(-1.729)	-0.0054	(-1.246)

Panel A: Carhart(1997) four factor model				
	RMF investors		OTHER investors	
	Positive flow	Negative flow	Positive flow	Negative flow
	Portfolio V	Portfolio VI	Portfolio VII	Portfolio VIII
Alpha	-0.0035 (-1.73)	-0.0007 (-0.28)	0.0070 (1.91)	0.0130 (2.85)
RMRF	0.7654 (15.53)	0.4568 (7.94)	0.8664 (9.66)	0.8355 (7.45)
SMB	-0.1736 (-2.97)	-0.0875 (-1.28)	-0.0504 (-0.47)	-0.3235 (-2.44)
HML	-0.1647 (-3.1)	-0.2512 (-4.05)	-0.1228 (-1.33)	-0.0745 (-0.64)
UMD	0.0261 (2.31)	-0.0171 (-1.29)	0.0049 (0.24)	-0.0233 (-0.91)
Adjusted R-square	0.7634	0.4456	0.5061	0.4634
Alpha difference	-0.0028	(-0.910)	-0.0060	(-1.033)

Panel B: Fama and French(1993) three factor model				
	All investors		LTF investors	
	Positive flow	Negative flow	Positive flow	Negative flow
	Portfolio I	Portfolio II	Portfolio III	Portfolio IV
Alpha	0.0008 (0.48)	0.0054 (2.4)	-0.0022 (-1.08)	0.0033 (0.84)
RMRF	0.7994 (20.34)	0.6990 (12.82)	0.7682 (16.26)	0.8290 (9.22)
SMB	-0.1077 (-2.27)	-0.1552 (-2.36)	-0.0822 (-1.37)	-0.0183 (-0.16)
HML	-0.1280 (-3.01)	-0.1678 (-2.84)	-0.0763 (-1.4)	-0.2320 (-2.23)
Adjusted R-square	0.6477	0.4369	0.8165	0.5589
Alpha difference	-0.0046*	(-1.669)	-0.0055	(-1.243)

Panel B: Fama and French(1993) three factor model				
	RMF investors		OTHER investors	
	Positive flow	Negative flow	Positive flow	Negative flow
	Portfolio V	Portfolio VI	Portfolio VII	Portfolio VIII
Alpha	-0.0032 (-1.57)	-0.0008 (-0.35)	0.0070 (1.93)	0.0128 (2.82)
RMRF	0.7650 (15.23)	0.4570 (7.92)	0.8666 (9.7)	0.8346 (7.45)
SMB	-0.1790 (-3.01)	-0.0840 (-1.23)	-0.0511 (-0.48)	-0.3199 (-2.41)
HML	-0.1703 (-3.15)	-0.2476 (-3.98)	-0.1230 (-1.33)	-0.0735 (-0.64)
Adjusted R-square	0.7545	0.4424	0.5102	0.4642
Alpha difference	-0.0024	(-0.769)	-0.0058	(-0.997)

Panel C: Jensen(1968) model				
	All investors		LTF investors	
	Positive flow	Negative flow	Positive flow	Negative flow
	Portfolio I	Portfolio II	Portfolio III	Portfolio IV
Alpha	0.0009 (0.55)	0.0055 (2.44)	-0.0024 (-1.2)	0.0046 (1.19)
RMRF	0.8228 (24.12)	0.7362 (15.57)	0.7924 (20.02)	0.7970 (10.44)
Adjusted R-square	0.6385	0.4231	0.8146	0.5429
Alpha difference	-0.0046*	(-1.656)	-0.0070*	(-1.611)

Panel C: Jensen(1968) model				
	RMF investors		OTHER investors	
	Positive flow	Negative flow	Positive flow	Negative flow
	Portfolio V	Portfolio VI	Portfolio VII	Portfolio VIII
Alpha	-0.0033 (-1.53)	-0.0001 (-0.03)	0.0075 (2.09)	0.0118 (2.58)
RMRF	0.8136 (17.81)	0.4469 (8.44)	0.8611 (11.2)	0.9663 (9.85)
Adjusted R-square	0.7300	0.3749	0.5111	0.4463
Alpha difference	-0.0032	(-0.980)	-0.0043	(-0.742)

The table Panels A to C presents the results of fund analysis of zheng trading strategies and the difference of alpha. * and ** indicate 10% and 5% significant, respectively.

5. Conclusion

The aim of this paper is to consider the selection ability and timing ability of Thai mutual fund investors which call “Smart money effect”. The results indicate that the smart money effect appear when consider overall investors in Thailand. By the way, when separate the fund into LTF RMF and OTHER group, it’s not show the strong evident that the smart money effect is occur in OTHER and Dumb money effect is occur in LTF and RMF group.

The flow model of this paper shows that investor of LTF and RMF have the abnormal buying power in the last month of the year. This can support that LTF and RMF investor tend to buy the fund for tax propose in that year. The next model for test smart money effect are GT-measurement and Zheng trading strategies. For GT-measurement model is construct to see the smart money effect of investor which define by Grinblatt and Titman(1993) and the result of this model indicate that OTHER investors show the smart money effect but the LTF and RMF investor can’t conclude in this model. By the way, the Zheng trading strategies show the more

confidential result when compare with the GT-measurement due to it tracks the return of portfolio in each month. However, it is not show the strong evident that the smart money effect is occur in OTHER group and Dumb money effect is occur in LTF and RMF group but the evidence show that the overall investor in Thailand show the Dumb money effect in the short term investment.

This paper casts doubts on the argument that laws should be established to protect all kind of investors and remind all of investor in Thailand to not hurting themselves. Finally, it will be interesting for the future research to re study the smart money effect in Thailand by using the different tool and strategies to measure them. Also, try to use the GT-measurement by use the next 5 year return and using the 5 year return in the Zheng trading strategies.

REFERENCES

1. Zheng, L., *"Is money smart? A study of mutual fund investors' fund selection ability."* The Journal of Finance, 1999. **54**: p. 901-933.
2. Keswani, A., and David Stolin, *"Which money is smart? Mutual fund buys and sells of individual and institutional investors."* The Journal of Finance, 2008. **63**: p. 85-118.
3. Elton, E.J., Martin J. Gruber, and Christopher R. Blake, *"The persistence of risk-adjusted mutual fund performance."* The Journal of Finance, 1995.
4. Feng, X., Mingshan Zhou, and Kam C. Chan, *"Smart money or dumb money? A study on the selection ability of mutual fund investors in China."* The North American Journal of Economics and Finance 2014. **30**: p. 154-170.
5. Grinblatt, M., and Sheridan Titman, . *"Mutual fund performance: An analysis of quarterly portfolio holdings."* Journal of business, 1989: p. 393-416.
6. Grinblatt, M., and Sheridan Titman, *"Mutual fund performance: An analysis of quarterly portfolio holdings."* Journal of business, 1989: p. 393-416.
7. Grinblatt, M., and Sheridan Titman, *"The persistence of mutual fund performance."* The Journal of Finance, 1992. **47**: p. 1977-1984.
8. Carhart, M.M., *"On persistence in mutual fund performance."* The Journal of finance, 1997. **52**: p. 57-82.
9. Jensen, M.C., *"Agency cost of free cash flow, corporate finance, and takeovers."* Corporate Finance, and Takeovers. American Economic Review, 1986. **76**.
10. Fama, E.F., and Kenneth R. French, *"Common risk factors in the returns on stocks and bonds."* Journal of financial economics, 1993. **33**: p. 3-56.



APPENDIX

จุฬาลงกรณ์มหาวิทยาลัย
CHULALONGKORN UNIVERSITY

VITA

my name is paween praweenwongwut. I graduated in bachelor degree in civil engineer at chulalongkorn university. and in the present time, i almost graduate from chulalongkorn university in msf finance master degree.

