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Essays on Open-Ended Equity Mutual Funds in Thailand

Presented at
**SEC Policy Dialogue 2018:
Regulation by Market Forces**

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Agenda

- Stylized facts about mutual funds
 - Returns and expenses
 - Fund styles
 - Fund flow, competition and risk-taking
- Visualization tool for self-exploration



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REFINITIV



Stock characteristics
and returns

MORNINGSTAR®

Fund characteristics
and returns

Bloomberg

Money market rates

Data exploration exercise

Four Stylized Facts about Open-Ended Equity Mutual Funds in Thailand

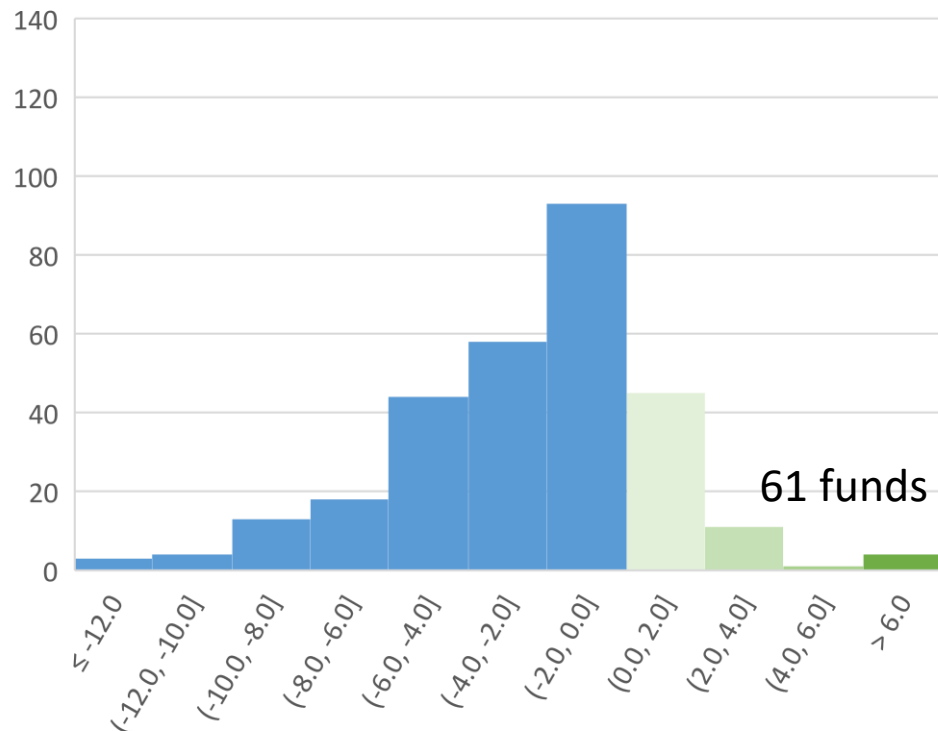
1. Most funds **do not beat the market**, whether it is raw or risk-adjusted returns.
2. Most funds effectively act as **de facto indexers**, delivering returns that are very similar to the market.
3. The majority of capital is allocated to stocks with **large** market capitalization, and **growth** stocks, and **momentum** stocks.
4. Funds that **experienced higher returns** and funds operated by bank-owned asset management companies tend to experience greater inflows.



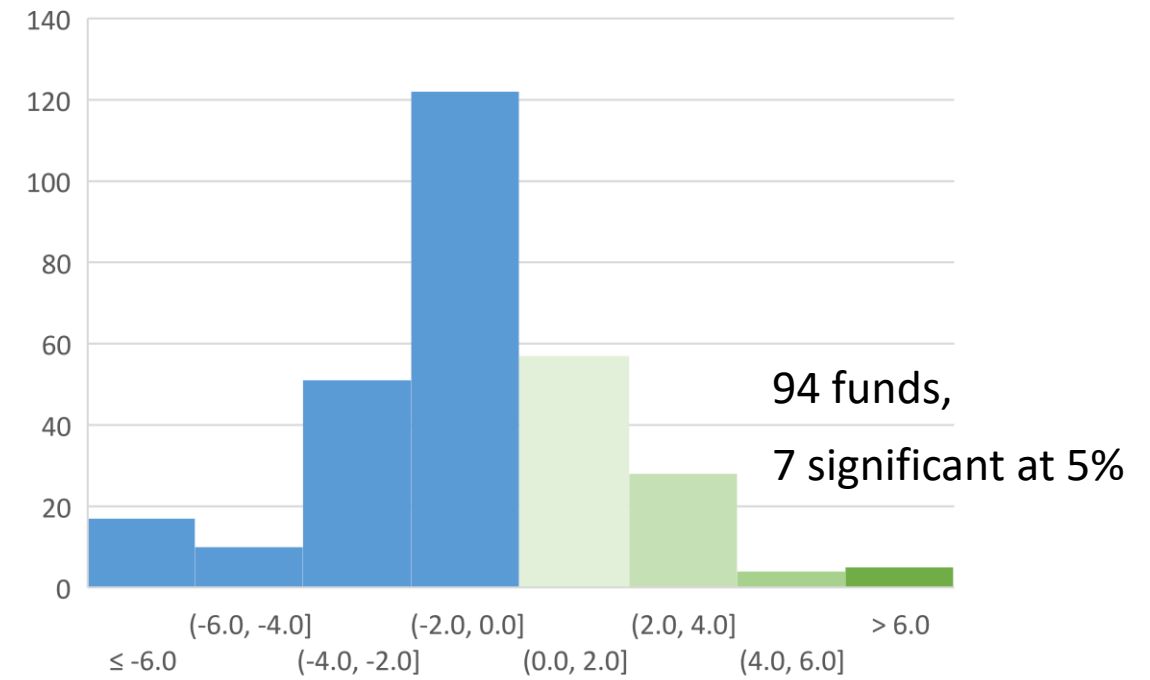
Fact #1: Most funds do not beat the market.

Average returns net of expense ratio are calculated between 2005 – 2016, or shorter for funds established after 2005. The benchmark for risk-adjustment is SET TRI. Returns are annualized.

Relative return = fund return – benchmark
[e.g. SET TRI]

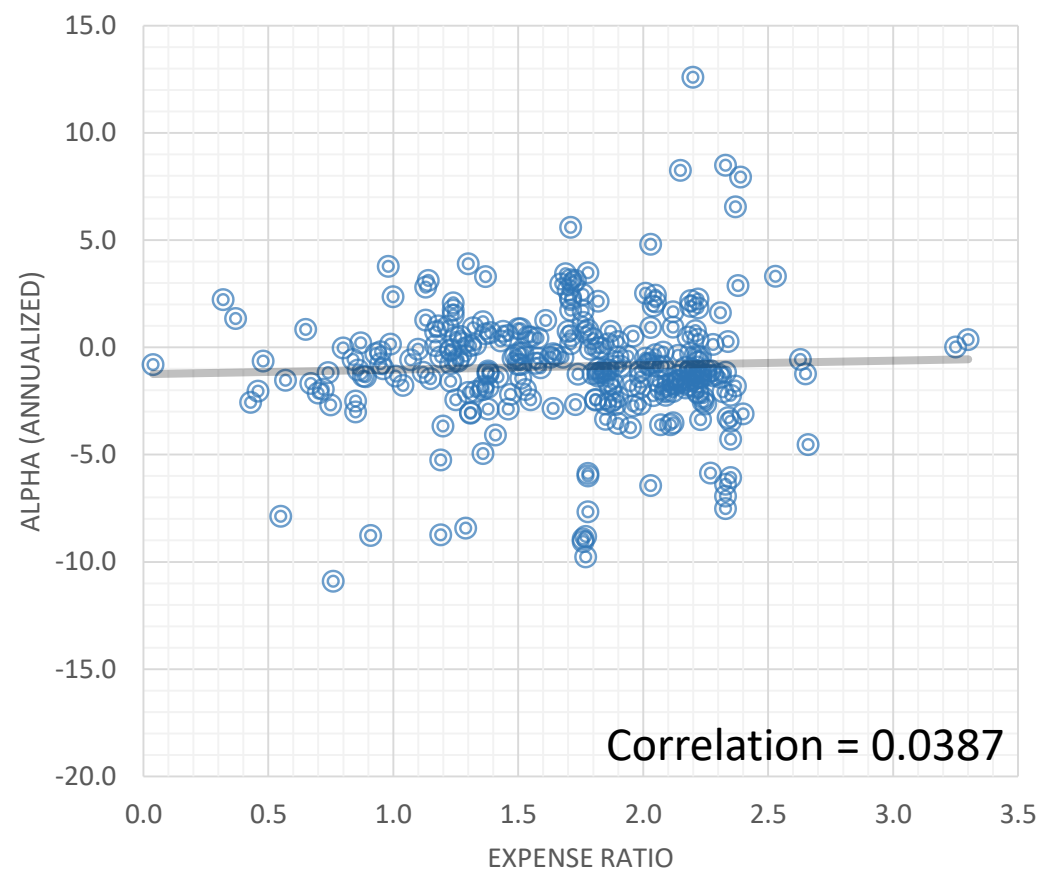
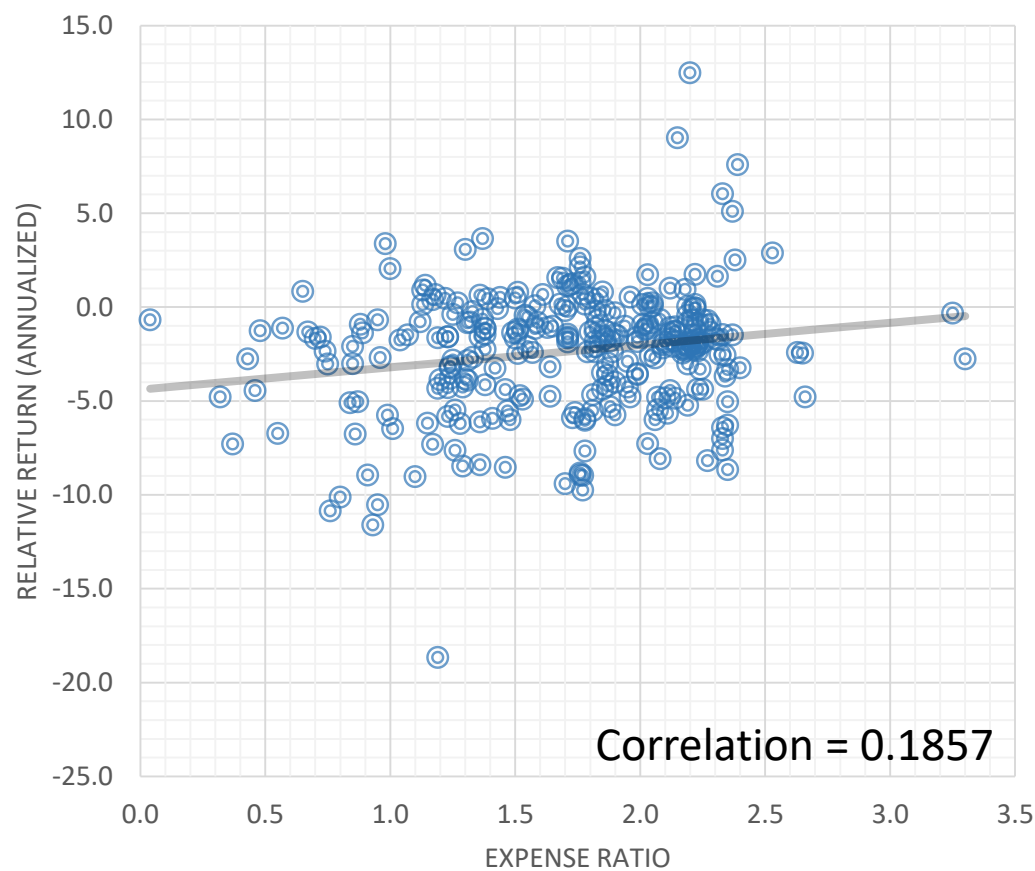


Alpha = fund return – risk-adjustment
[e.g. CAPM; multi-factor model]



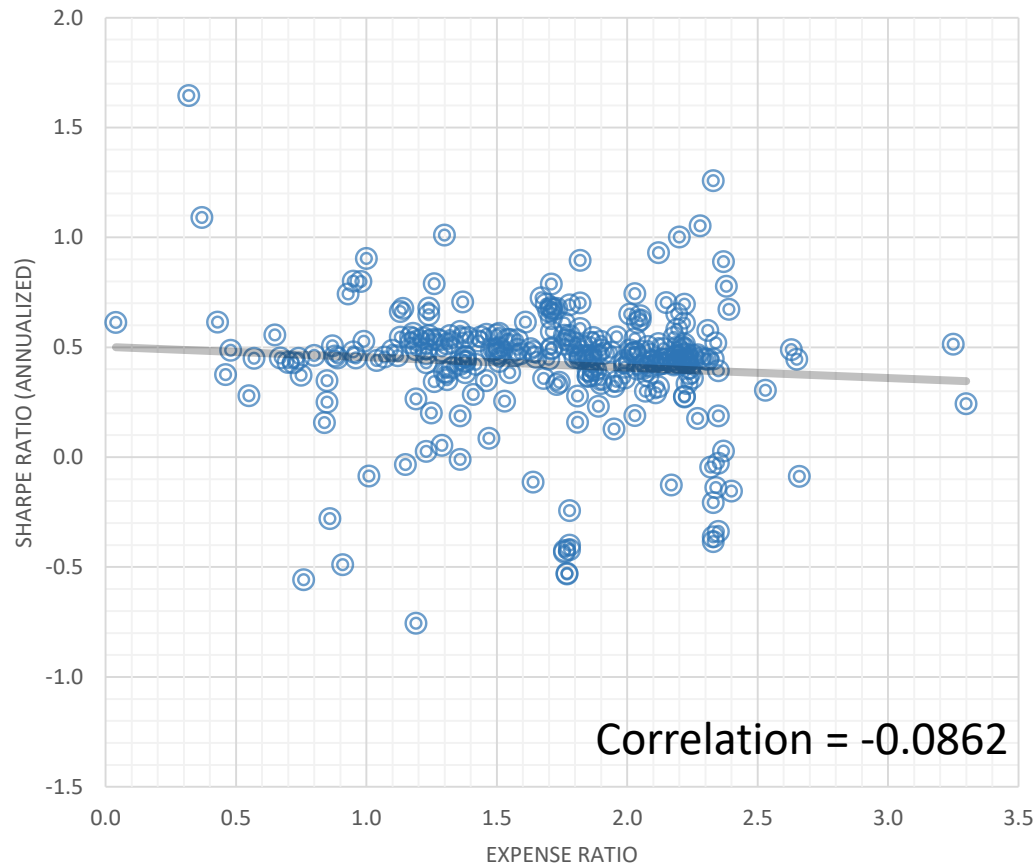
Fee for return? Some evidence that funds with high expense ratio deliver higher net returns, but not on a risk-adjusted basis.

However, the net returns here exclude load fees (front-end, back-end).





Comparison against Sharpe ratio reveals similar result.
No relationship between fee and performance.



Sharpe ratio is another method of comparing an asset's total risk against excess return:

$$SR_i = \frac{r_i - r_f}{\sigma_i}$$

Fact #2: The majority of funds act as indexers regardless of investment policy.

How similar is the portfolio return compared to the market?
Two ways of measuring the degree of indexing:

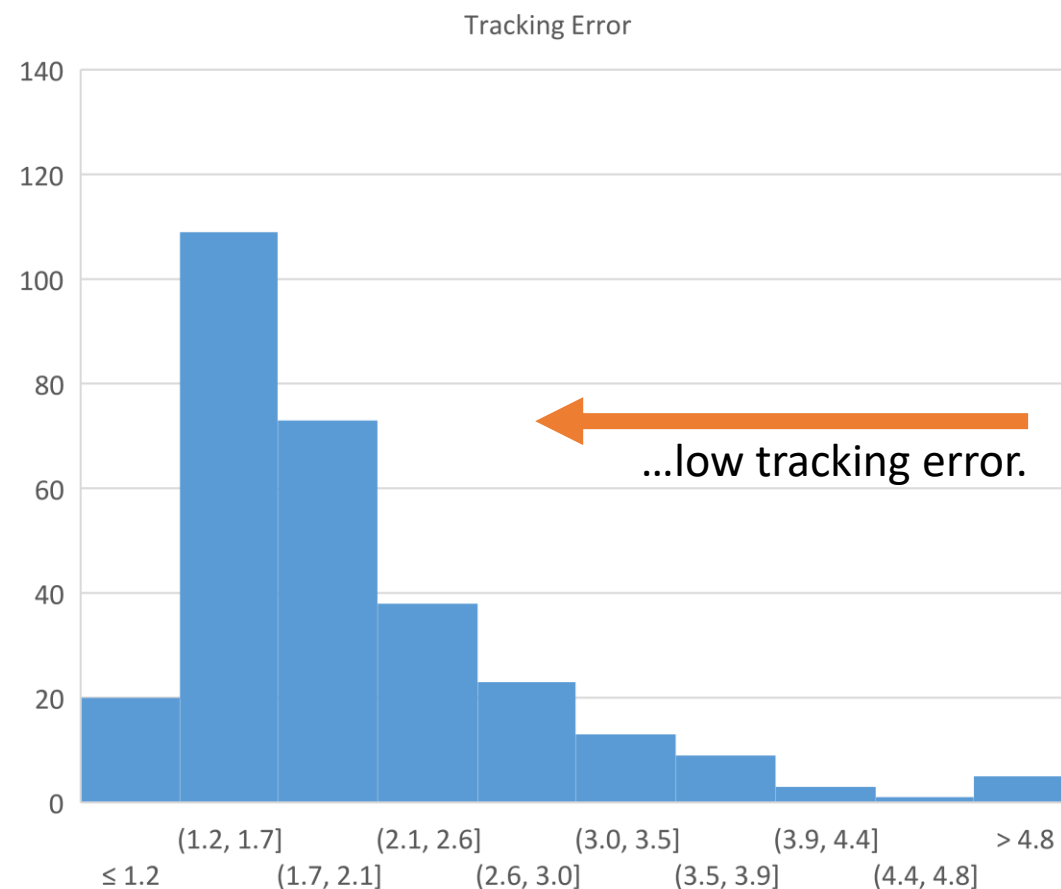
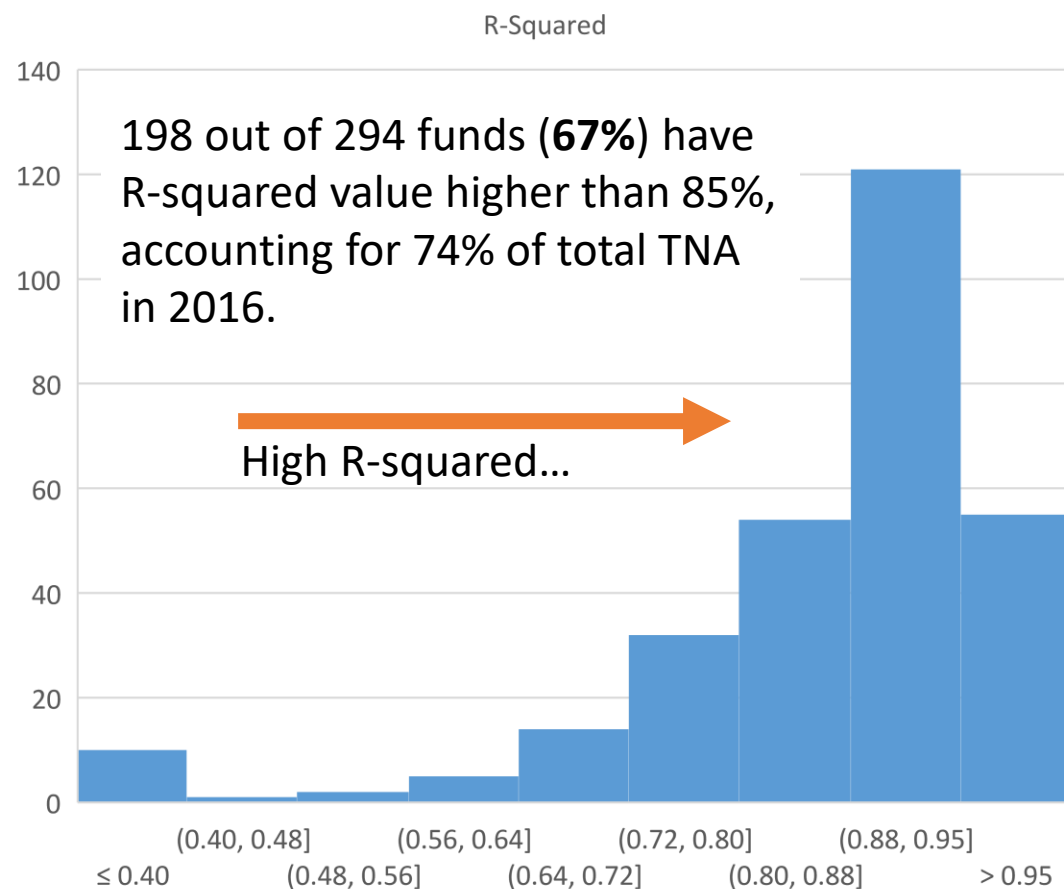
1. **R-squared** value from asset pricing regression

- For example, $r_i - r_f = \alpha_i + \beta(r_m - r_f) + \varepsilon_i$
- High R-squared value means market returns explain fund returns very well

2. **Tracking error**

- How different are fund returns compared to market returns in each period.
- Computed as standard deviation of relative returns.

The R-squared values are high and tracking errors are low, which are not expected of active funds.

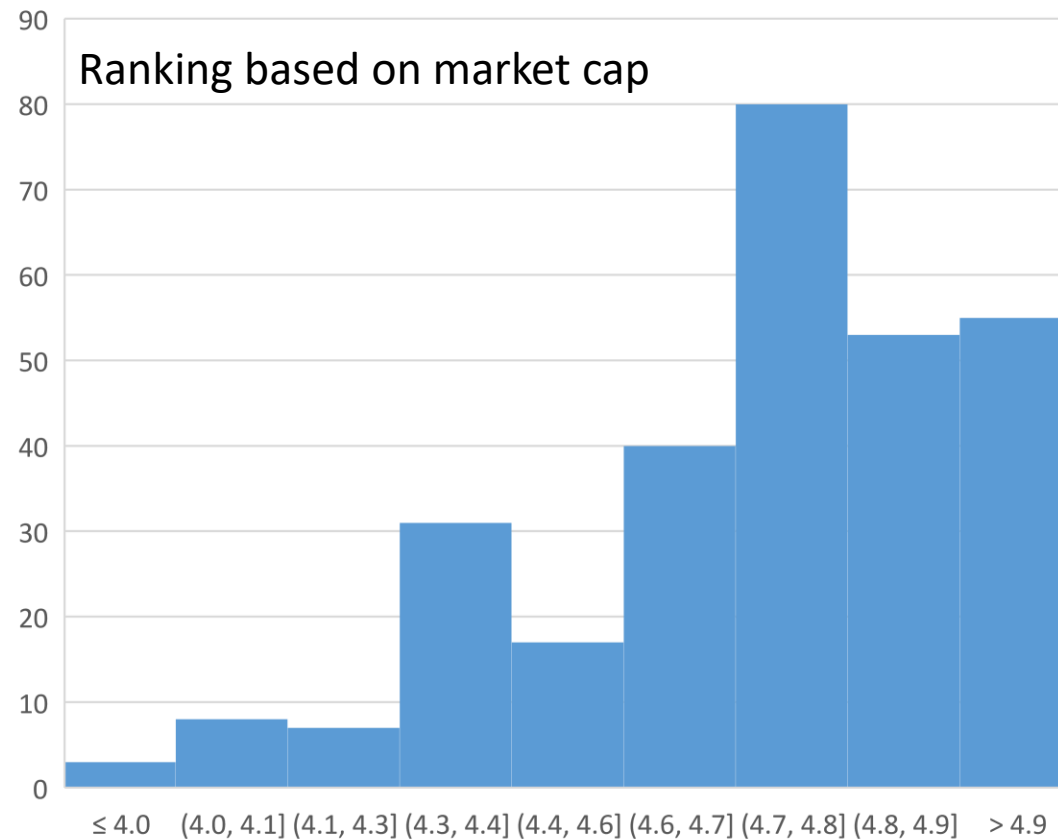




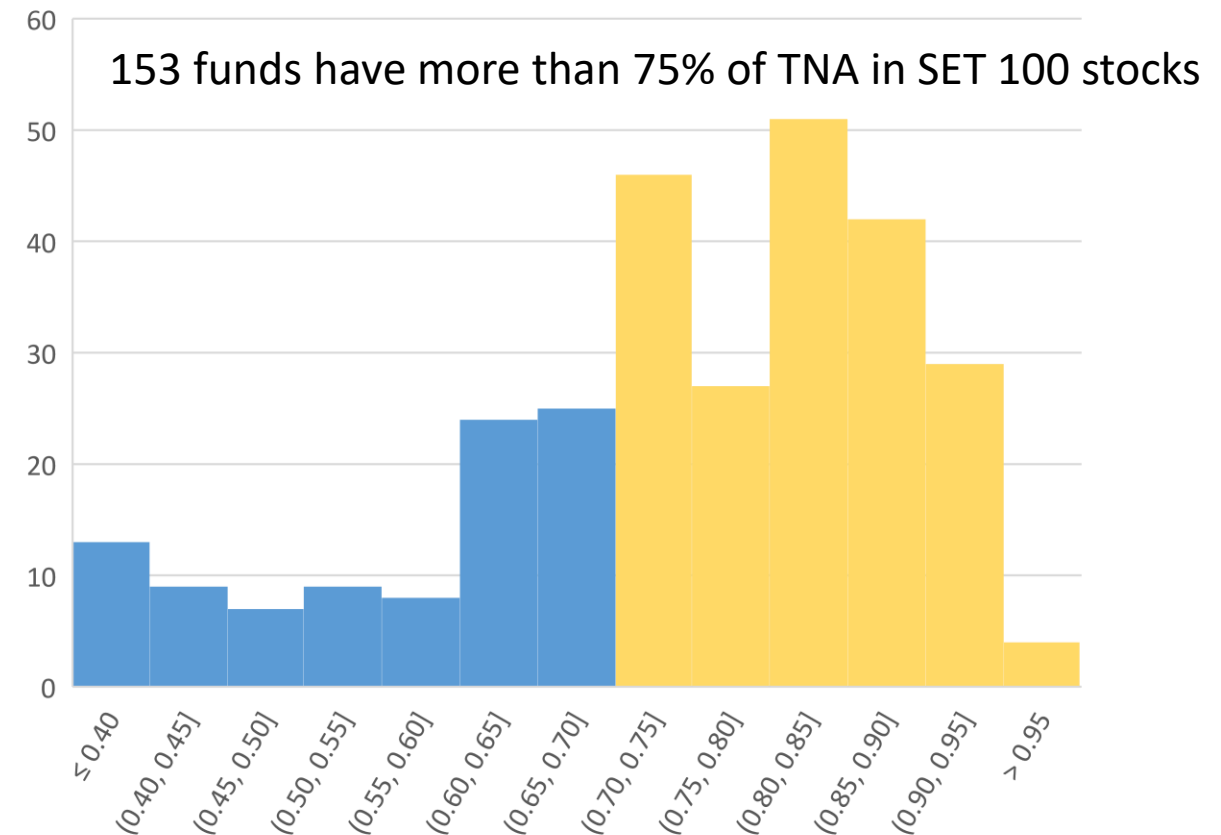
Fact #3: Mutual funds prefer large cap stocks...

Each year in June, stocks are ranked into 5 groups based on their characteristics and calculate the value-weighted average of all stocks held by each fund in December 2016.

5 = large cap



Share of TNA in SET 100 stocks

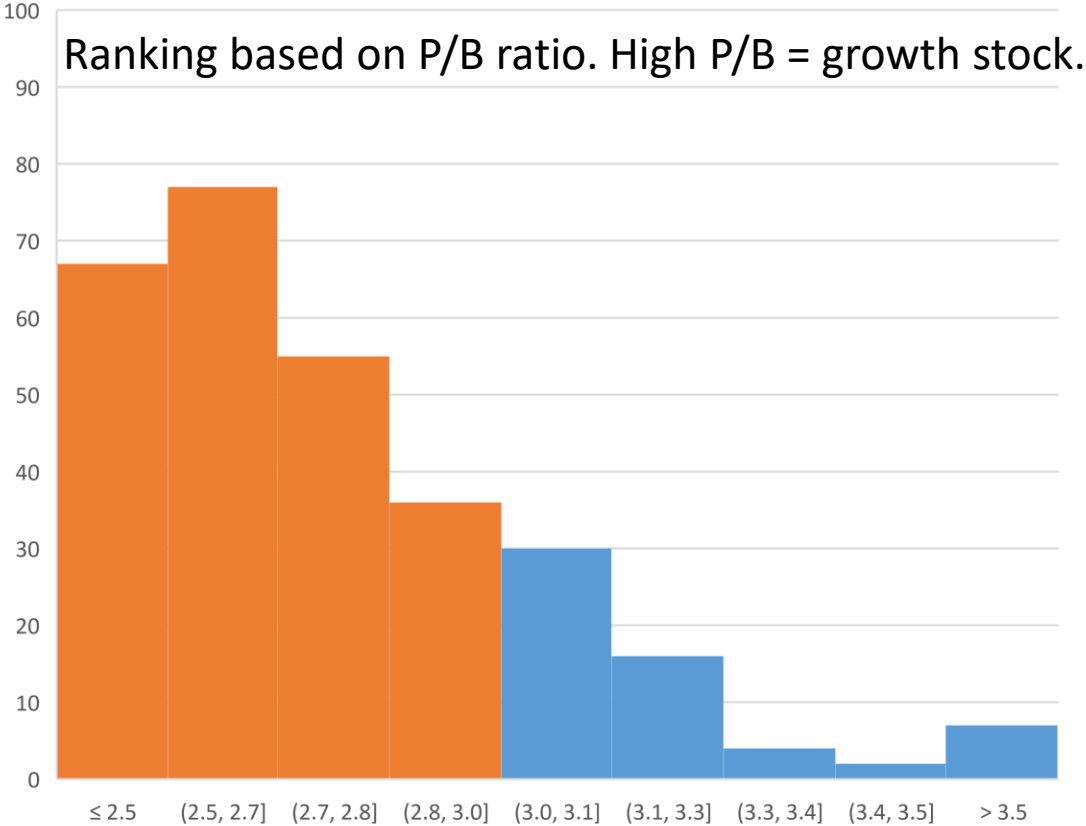




Fact #3: ...and growth stocks with momentum.

Each year in June, stocks are ranked into 5 groups based on their characteristics and calculate the value-weighted average of all stocks held by each fund in December 2016.

1 = growth; 5 = value

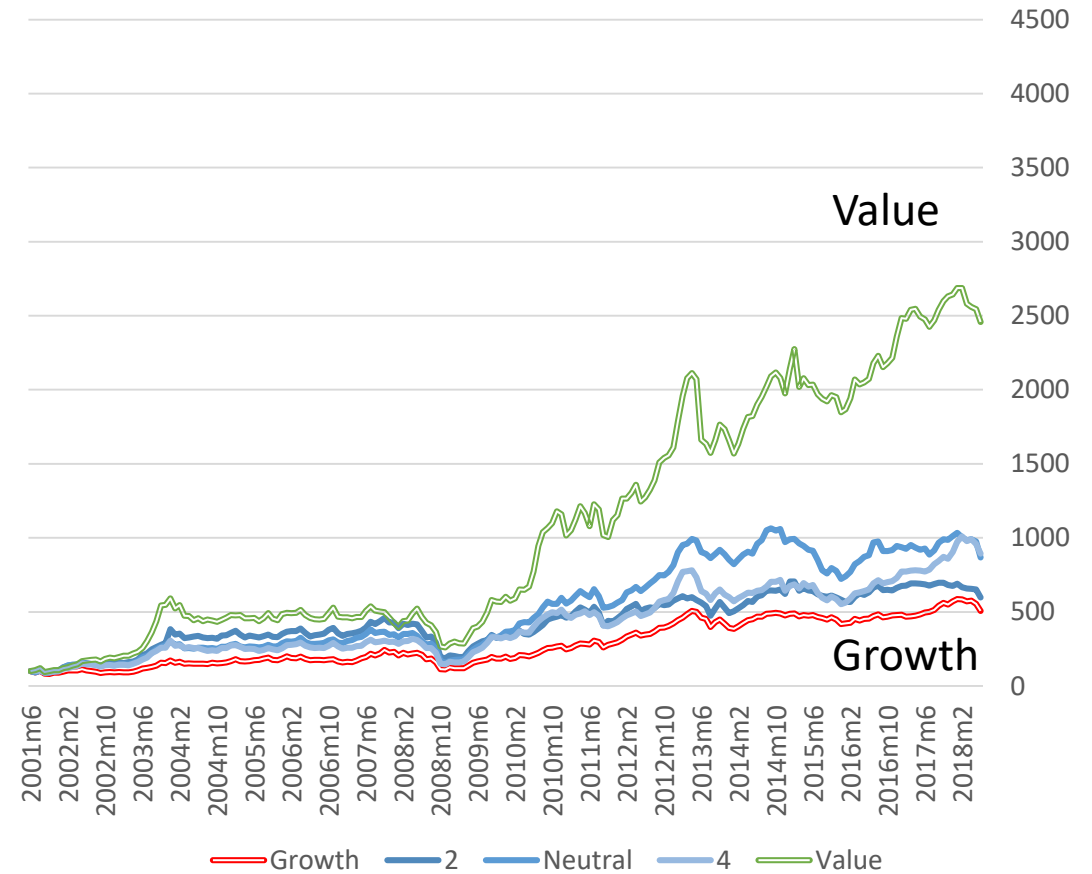
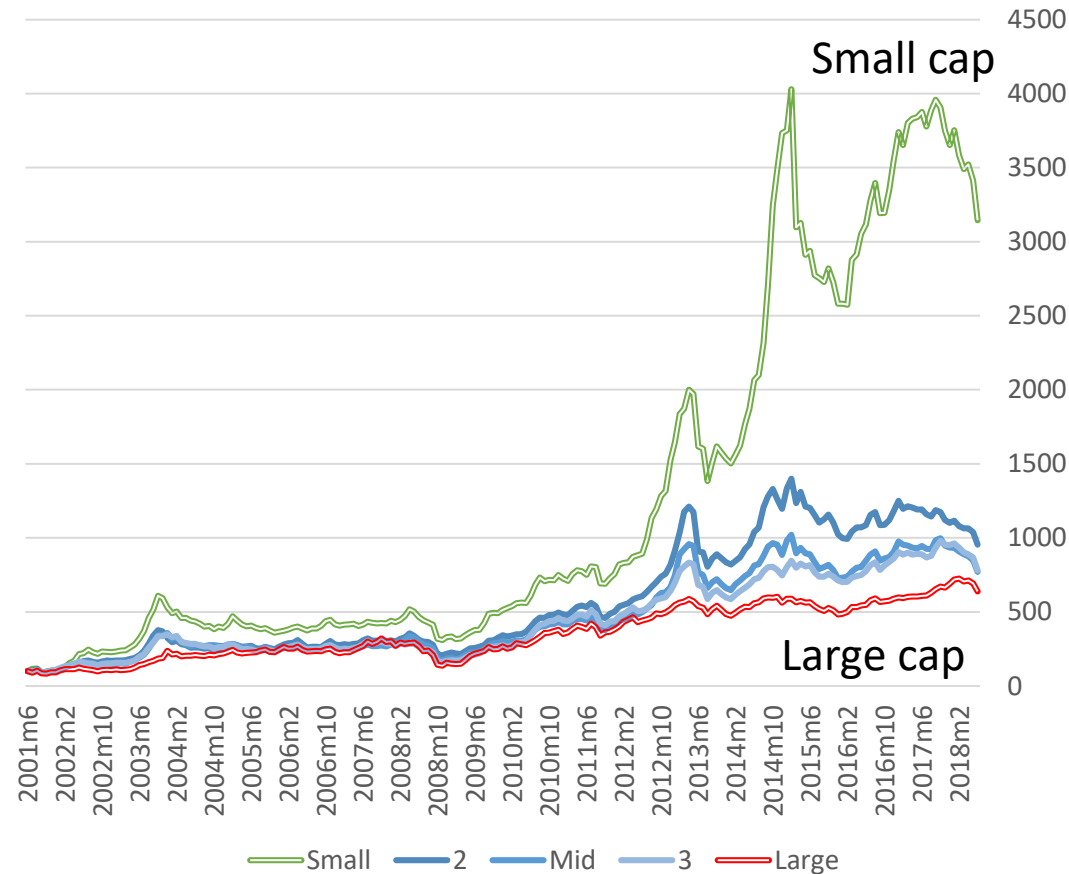


5 = high momentum



...but in Thailand, small cap and value stocks tend to perform better. Do we need style adjustment?

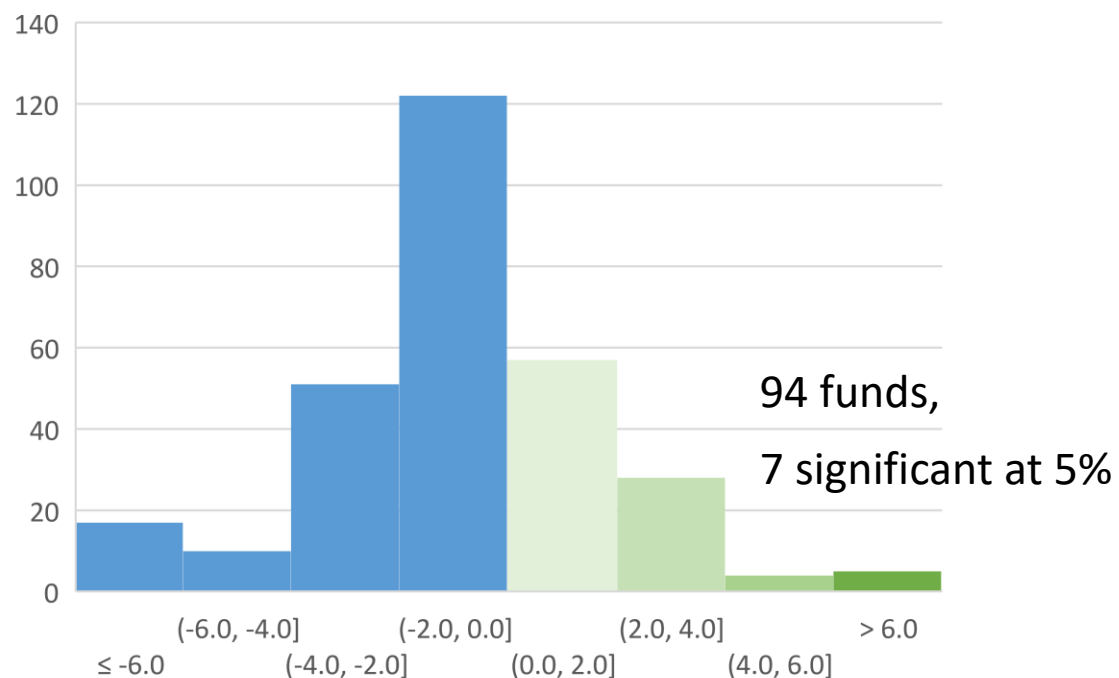
Each year in June, stocks are ranked into 5 groups based on their characteristics and put into portfolios. The value-weighted average returns are reported until the next ranking occurs.



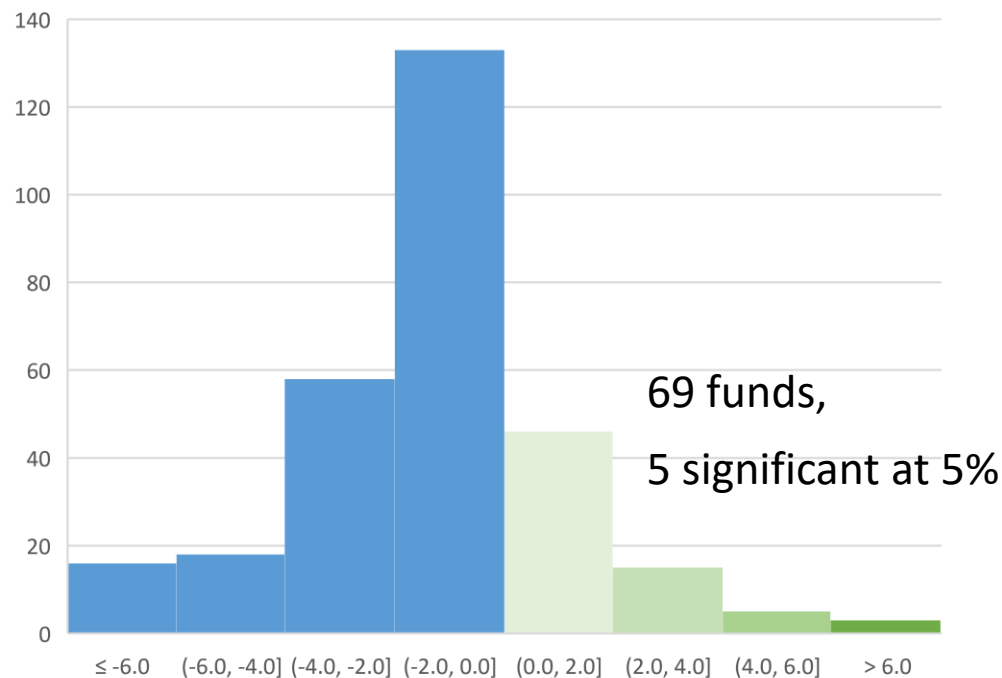
Style adjustment using multi-factor asset pricing model leads to fewer funds generating positive alphas.

Average returns net of expense ratio are calculated between 2005 – 2016, or shorter for funds established after 2005. Returns are annualized.

Alpha = fund return – risk-adjustment
[CAPM single factor: market]



Alpha = fund return – risk-adjustment
[4-factor: market, size, value, momentum]





Fact #4: Top-performing funds receive disproportionately more fund flow.

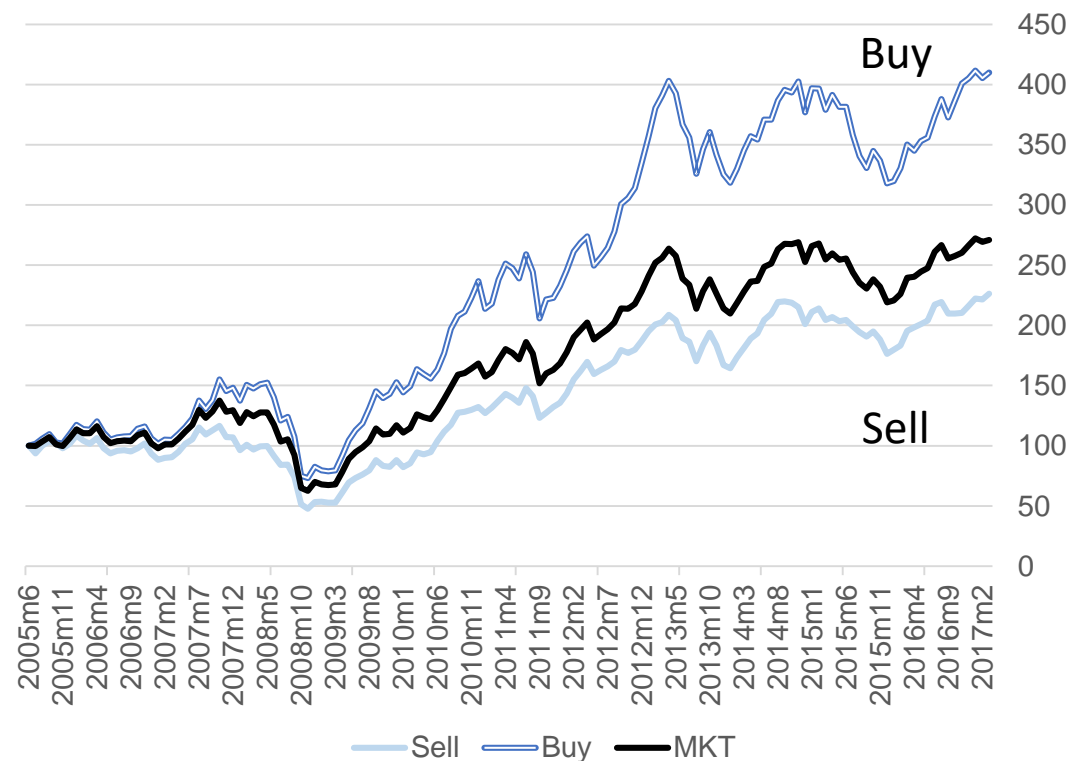
Where do fund flows go? And what might laggards do to catch up?

VARIABLES	(1) All	(2) Non-Tax	(3) Tax	(4) LTF	(5) RMF
4th performance quintile	6.1014** (2.7202)	7.4888* (3.9579)	3.3660 (2.3399)	2.7113 (3.2592)	3.9665 (3.6806)
3rd performance quintile	5.0363** (2.4887)	4.7859 (3.1792)	5.6054* (3.0406)	5.6472 (5.0911)	8.0622*** (2.9713)
2nd performance quintile	5.3621** (2.3992)	5.0245 (3.2743)	4.6596* (2.4133)	3.0542 (3.6458)	8.2704** (3.2626)
Top performance quintile	14.6249*** (2.7349)	13.1649*** (3.4858)	20.0810*** (3.6190)	21.8704*** (4.5708)	18.4900*** (6.4049)
Lagged std dev of monthly returns	-2.2631** (1.0194)	-1.7302 (1.2270)	-0.1520 (1.3836)	0.2417 (2.1719)	-0.7397 (1.6506)
Lagged expense ratio	4.0369*** (1.2164)	2.4117** (1.0703)	9.3810* (4.9741)	11.1106 (7.0673)	5.4918 (3.4045)
Log of lagged fund size	-2.3615*** (0.9089)	-2.9985** (1.2039)	-3.6426*** (1.1529)	-3.4018** (1.4860)	-4.0331*** (1.1930)
Fund owned by bank	15.3721*** (2.5327)	13.7992*** (3.1170)	14.2213*** (3.3788)	13.5981*** (4.7934)	16.4218*** (3.4035)

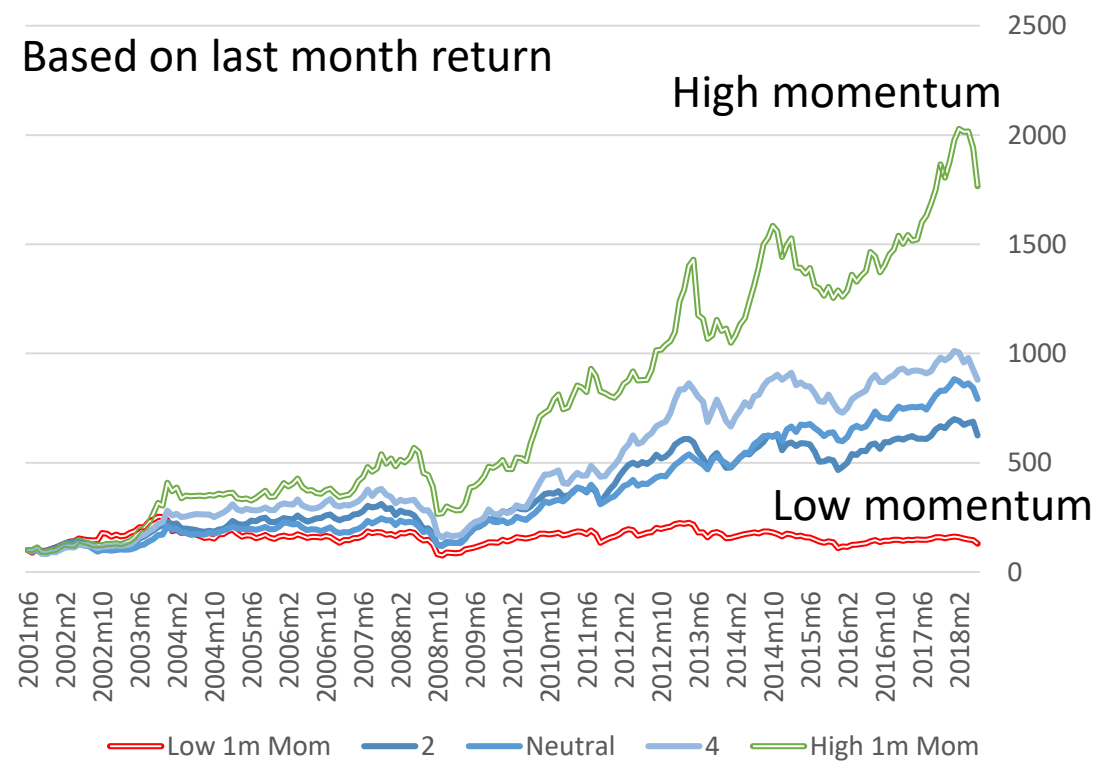


(1) If mutual funds tend to buy the same stocks, then this could lead to the momentum effect.

Stocks that mutual funds buy tend to increase in price more...



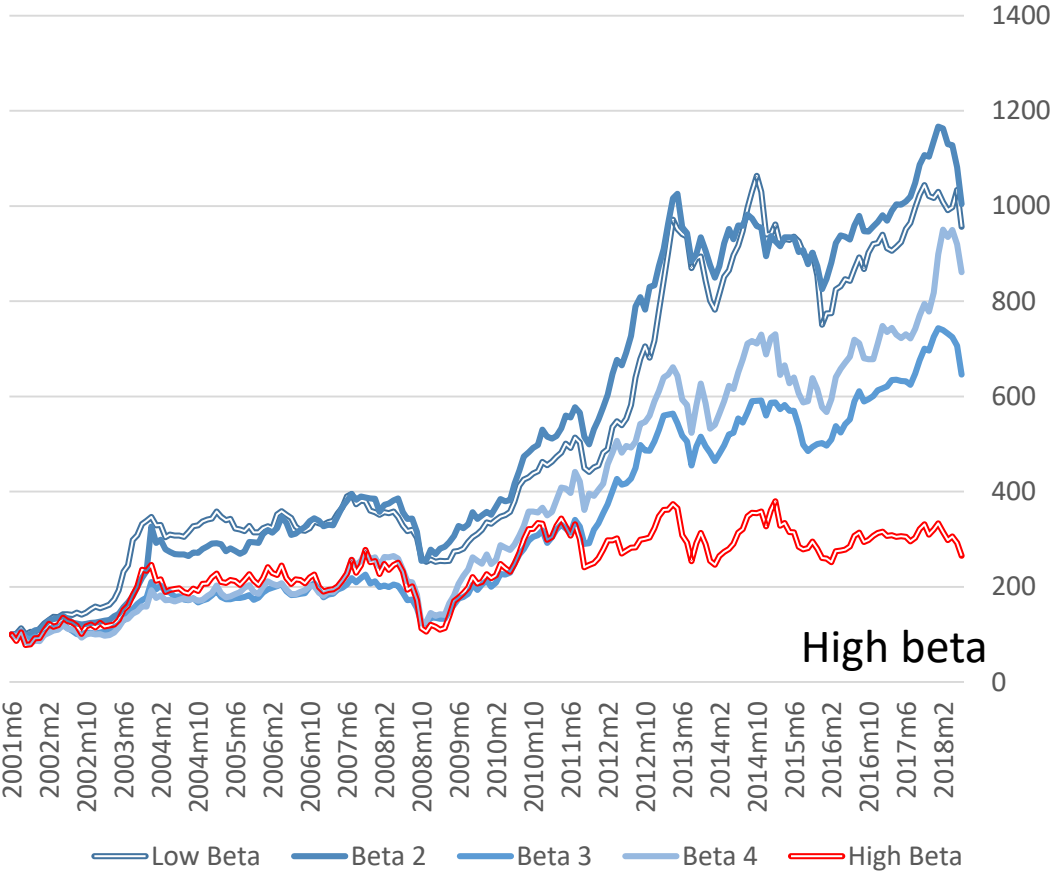
...which could potentially explain the short-term momentum effect in the Thai market.





(2) If high returns attract fund flow, then funds may be tempted to increase risk to compete.

Reach for yield/return-chasing? But high risk stocks don't perform very well in Thailand...



	(1)	(2)	(3)
Depvar: Fund beta [t, t+1]	Pooled	LTF/RMF	Non-Tax
Fund flow [t]	-0.0151 (0.0213)	-0.0664* (0.0385)	0.0073 (0.0226)
Fund beta [t-1, t]	-0.5513*** (0.0192)	-0.5180*** (0.0310)	-0.5742*** (0.0268)
Log fund size [t-1, t]	0.0170 (0.0224)	0.0165 (0.0758)	0.0148 (0.0241)
Expenses [t-1, t]	-0.0178 (0.0268)	0.0119 (0.0460)	-0.0504 (0.0349)
Relative return [t]	0.0478 (0.1022)	0.0629 (0.1673)	0.0582 (0.1270)
Observations	1,269	519	750
Style FE	YES	YES	YES
Year FE	YES	YES	YES
Adjusted R-squared	0.725	0.692	0.752

Explore our work yourself!

Online interactive data visualization project

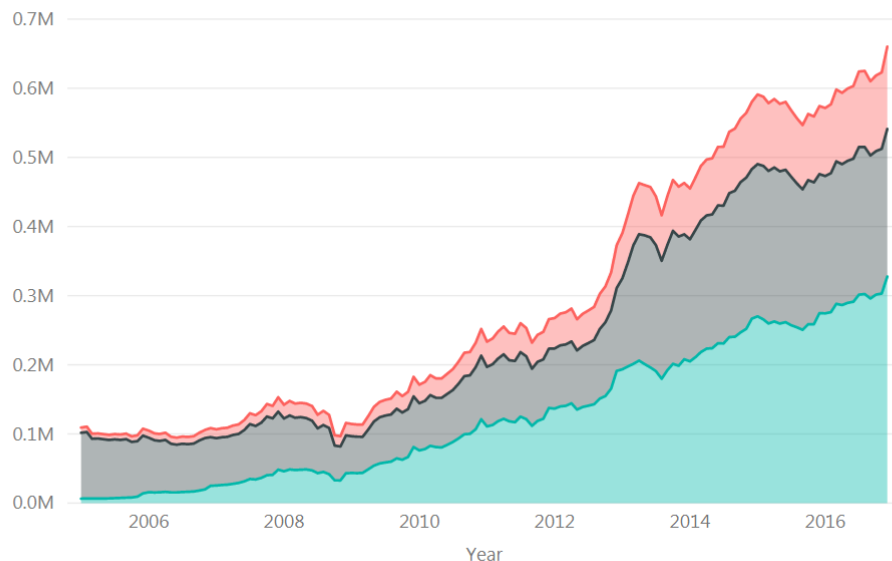
Stylized Facts about Open-Ended Equity Mutual Funds in Thailand

Prepared by Asst. Prof. Kanis Saengchote Ph.D. | Chulalongkorn Business School - Last updated: 25 October 2018

Mutual funds provide an important mechanism for households to invest for their future. Asset under management (AUM) of Thai mutual funds grows almost 12 times from THB 390 billion to over THB 4.6 trillion between 2001 and 2016. Much of the capital is allocated to fixed income funds and funds that invest in foreign assets. In this study, we restrict our attention to open-ended funds that invest in domestic equity which, by 2016, accounts for about 13.4% of total AUM, the majority of which is accounted for long-term equity funds (LTF) and retirement mutual funds (RMF).

AUM by type of fund (THB million)

Fund Type ● LTF ● Normal ● RMF



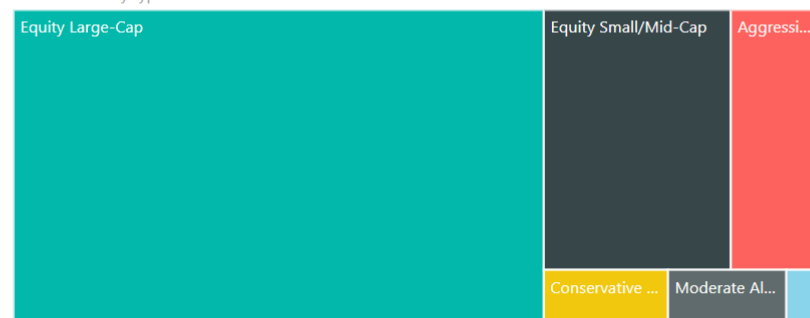
Total AUM in 2016 (THB million)

622.95K

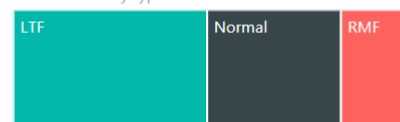
Number of funds in sample

294

AUM in 2016 by type of fund



AUM in 2016 by type of fund



AUM in 2016 in bank and non-bank companies



<http://bit.ly/2yu1I4U>



Similar data also
available through
SEC's API.