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Strategic Positioning Behavior and the Inter-Granger-Causality of Alternative Securities Investments in Thailand: A Study

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Abstract

In this study the strategic positioning behavior of Thai investors from 1997 to 2022 was evaluated in order to explore the deterministic variables of why they might prefer to invest in either money markets or mutual funds/bonds, relative to equity market investments. Using factor analysis and publicly available financial data to answer these questions, it was discovered that attractive yields and the tradeoff of risk-return were essential factors that led to such investment behavior. Using a cointegration Autoregressive Distributed Lag method, an Error Correction Model, and Granger causality to verify these findings, dividend yield and risk-return tradeoff were the only predicted causes. The multiplier effects of marginal propensity to invest and equity market investment turnover in Thailand are catching up in terms of economic development in other Association of Southeast Asian Nations. These findings point to a need for further innovative development of Thai equity and alternative investment markets.

Keywords: *Thailand, market capitalization, alternative securities investments, ASEAN*

Introduction

This study investigated how Thailand, a founding member of the Association of Southeast Asian Nations (ASEAN-5), has progressed economically and industrially. It has been thought that the 1997–1998 Asian financial crisis originated due to the dwindling position of the Baht, even though Panahi (2016) argued that it was caused by the contagion effects of crony capitalism and a pegged-exchange rate system.

The World Bank in Thailand (2024) reported that Thailand is a development success story in the implementation of its Sustainable Development Goals. Siwapathomchai et al. (2023) reported that the country is adapting to global trends through what is referred to as *cultural soft power*. This includes the adoption of virtual entertainment, tourism, and an avant-garde cyber lifestyle. Wahyauni et al. (2013) discovered that Thailand has a higher rate of success in spite of its modest economy. Yet despite the encouraging economic progress in Thailand, ASEAN-5 equity market indices as of June 8, 2024 revealed a relatively low index for the Stock Exchange of Thailand (SET) at 1274, compared to those of Malaysia (1574), Singapore (3198), the Philippines (6433), and Indonesia (7129) (WSJ Markets, 2024). Why was it so low? The securities investment behavior of Thai people in general is herewith the subject of this observation.

Alpha Southeast Asia (2020) reported that Thailand's USD 4.96 billion in initial public offerings (IPO) in primary equity markets in 2020 was second only to China (USD 65.6 billion). Yasyi (2023) reported that this was indeed a big step for Thailand, probably in order to catch up with the SET's relatively low market index compared to those of its ASEAN-5 neighbors. However, secondary market transactions in 2023 were remarkably high at USD 757.8 billion, double the USD 353.7 billion average of transactions during 2013–2020 before the COVID-19 pandemic.

Thailand securities transactions from 2013 to 2020 indicated that mutual funds as reported by the Association of Investment Management Companies (AIMC) and bond investments as reported by the Thai Bond Market Association (ThaiBMA) recorded high compounded annual growth rates (CAGR) of 63.2% and 38.3%, respectively, which greatly exceeded the equity transactions at 10.5%, as revealed in the Stock Exchange of Thailand's statistics. Please see Table 1 for details.

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Table 1 *Comparison of Investments in Thai Securities in 2023 and From 2013–2020*

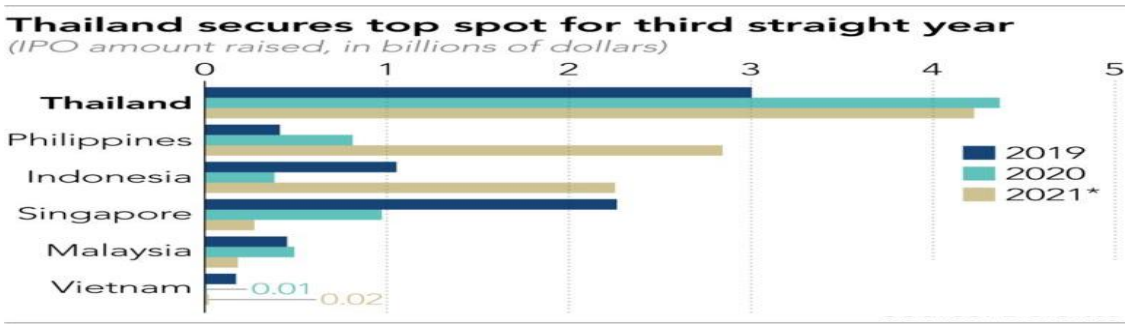
TRANSACTIONS (USD Billions, except for CAGR)	2023	From 2013 to 2020	
		Average	CAGR%
Equity transaction (actual)	757.9	353.7	10.5%
Alternative investments:			
Bank deposits (actual)	502.7	510.2	5.3%
Mutual funds (actual)	151.5	123.8	63.2%
Money market (estimate)	3461.0	2052	1.2%
Bonds (actual)	478.6	369.1	38.3%

Source. World Bank in Thailand (2024)

Equity Investments

Thailand's equity market, which consists of the primary and secondary markets at the SET, was founded on April 30, 1975. It is ASEAN's third largest exchange after the Indonesia Stock Exchange (IDX, market capitalization of USD 760.3 billion as of 2023) and the Singapore Stock Exchange (SGX, market capitalization of USD 428.1 billion as of 2023). The SET and the Market for Alternative Investment (MAI) have 885 listed companies, with a total market capitalization of USD 577.9 billion as of 2023. As of the end of 2023, the market makers in the primary equity market in Thailand were Bangkok Bank, Kasikorn Bank, Siam Commercial Bank, and Thanachart Bank. Thailand topped IPO financing during the period from 2019–2021 in spite of the pandemic; please refer to Figure 1.

Figure 1 *Selected ASEAN Countries' Initial Public Offering Amounts From 2019–2021*



Source. Southeast Asia IPO Capital Market (2021)

Primary Market Equity Investments

Companies can raise additional equity funds in primary markets with the help of an intermediary underwriter who guarantees the availability of the initial public offering. The stock is then listed in the stock exchange where secondary market activities take place. Yuda (2021) reported a giant IPO that involved PTT Oil and Retail (formerly the Petroleum Authority of Thailand), known today as PTT Public Company Ltd., a fully integrated gas and oil business. This 54 billion Baht IPO took place on December 6, 2001, and was underwritten by a bank syndicate led by Merrill Lynch Phatra Securities.

Secondary Market Equity Investments

On the listing date, PTT raised funds through an IPO and rights issue, which were traded on the SET and MAI. Some investors earn capital gains or incur losses when they sell stock. The last secondary market valuation for transactions before the pandemic was 33,343 billion Baht, or USD 1,119 billion, as of December 2020. After the pandemic, the SET recorded transactions valued at 25,919.0 billion, or USD 757.9 billion, as of December 2023.

Alternative Securities Investments

Four alternatives for Thai investors are herewith discussed: Fixed income bank deposits, mutual funds, money markets, and bond investments.

Bank Deposits

This investment consists of bank checking, savings, and time deposits which are subject to investors' risk-averse sentiments as well as the yield curve; this is one alternative to equity investments. Duarte et al. (2022) reaffirmed that if interest rates on deposits increase, investors leave equity markets and invest in these deposits, and vice versa. Bordo and Haubrich (2024) confirmed how the yield curve works in terms of consumer spending. They noted that the largest banks in Thailand such as Bangkok Bank, Kasikorn Bank, Krungthai Bank, Siam Commercial Bank, and the Government Savings Bank had total fixed income deposits of USD 502.7 billion in 2023.

Mutual Fund Investments

Before the pandemic, average mutual funds from 2013–2020 stood at USD 123.8 billion. In 2023, total funds reached USD 151.5 billion, or around 30.3% of Thailand's GDP. The top three fund management companies by net asset value market share were Kasikorn Asset Management (1.17 trillion Baht), SCB Asset Management (973 billion Baht), and BBL Asset Management (759 billion Baht). Net asset value is the difference between total assets minus liabilities in terms of current market prices. In Thailand, mutual funds are categorized into fixed income, equity, balanced funds, property, infrastructure, and others. Cavelli (2018) and Karmali (2024) reported participation by high-net-worth Thai investors in these funds, with wealth of at least USD 548 billion (Vaidya et al., 2024).

Money Market Investments

Money market investments include foreign exchange investments and other securities investments such as commercial paper (private and government securities); they consist of spot, forward, swap, and option. Individual investors normally choose spot money (USD, €, ¥, £, or others) for investments; the latter options are used by banking and non-banking business entities for hedging and speculative purposes. With estimated foreign exchange transactions of USD 3,461 billion in 2023, the Bank of Thailand's foreign currency reserves of USD 254.6 billion were turned over some 13.6 times. Its International Monetary Fund's real foreign exchange rate index was 115 at the end of the first quarter of 2024 (2010 = 100). ASEAN, the US, and China are Thailand's largest trading counterparts, with trade surpluses of 10.3%, 10.5%, and -9.4%, respectively (refer to Table 2).

Table 2 *Thai Balance of Trade, International Reserves, and Forex Trading (2023)*

Description	Balance of Trade	Export	Import
	(In USD Billions)		
Total Exports and Imports*	-5.1	284.6	289.7
ASEAN	10.3%	16.9%	6.6%
United States	10.5%	17.2%	6.7%
China	-9.4%	15.9%	25.3%
Hong Kong	3.9%	3.9%	0.0%
Japan	-2.1%	8.7%	10.8%
European Union	0.9%	7.7%	6.8%
International reserves*	254.6		
Estimated forex trading*	3461.0		
Real forex rate index (%)**	115.0		
Reserves (months of import)**	10.5		
Forex trading turnover (x)**	13.6		

Source. World Bank Group (2024) and Trading Economics (2024)

Bond Investments

Even though bond investments belong to the category of fixed income investments, it is more advisable to classify them separately due to specific traits of how their yield curves behave (McKay and Peters, 2019), i.e., negotiability, market price basis, longer maturity, different yields, etc.

Table 3 *Outstanding Thai Bonds for 2020–2023 (Billions)*

TYPE OF BOND	2023		2022	2021	2020
	USD*	Baht	Baht	Baht	Baht
National government	231	7,970	7,236	6,344	5,581
Treasury bills	12	430	535	540	439
State enterprises	30	1,046	1,038	1,016	927
State agencies	65	2,231	2,403	2,898	3,365
Corporate bonds	138	4,754	4,488	4,201	3,547
Foreign bonds	2	83	82	71	82
∑ bonds outstanding	479	16,514	15,782	15,070	13,941

Source. 2023 Bond Market Highlights (2024); **Baht/USD = 34.50*

Literature Review

The literature on strategic positioning behavior of securities investment seems limited, particularly pertaining to Thai investment styles, even though evaluations were published analyzing other contexts. This observation focused on several underlying theories, and a conceptual framework of the strategic positioning of Thailand securities investments was developed.

Underlying Theories

The theories explaining how the underlying economic indicators work are related to the framework adopted in this study.

Competitive Position (CP). Keynesian economics theorized that consumer motives, brand reputation, and product differentiation are the main factors that increase transactions and improve business profitability (Rua & Santos, 2022), as well as through perfect competition (Hayes, 2008). Porter (1985) originally introduced the concept of competitive advantage. For profitability, the specific yield level and capital gain are mentioned as imperative yardsticks that reinforce competitive advantage (Maury, 2018; Blinder, 2024).

Industry Position (IP). For investments, the weight factor determines the best composition of the Markowitz efficient frontier theory (Anderson and Goldsmith, 1997). The modern portfolio theory postulated by Markowitz (1952) capitalizes on the optimality of investment positions, which is a trade-off between a comfortable level of profitability and the lowest level of covariance. Index and transaction growth are the relevant yardsticks to measure the business industry position at any point of time (Jiang & Wu, 2023).

Financial Position (FP). The liquidity process and transaction multiplier effects are among the most effective yardsticks for measuring financial position; Naik (2021) recommended them to determine business direction. Carre and Klossner (2024) found them more effectively implemented by financial institutions, and proposed an investment multiplier to further determine improved financial position (Kosov et al., 2022).

Stability Position (SP). The other geometric side of the y axis is the stability of transaction volume and lesser price or return volatility as a measure of risk. Liu et al. (2023) found that the relationship between sustainability and financial stability could be better explained by using the Chinese financial market's Environmental, Social, and Governance index on returns on investment for equity, bonds, interbank, and money market investments, rather than using the existing stock index.

Research Problem Questions, and Hypothesis

In this study the securities investments in Thailand are described by answering the main problem identified and three research questions. The main problem was: As the second largest ASEAN economy (GDPppp = USD 1.304 trillion) after Indonesia (GDPppp = USD 3.589 trillion), "*what securities other than equity investments are preferred by Thai investors?"*

Research Question 1: What factors influence Thai investors' securities investment decisions?

Research Question 2: How are alternative securities investments strategically positioned in lieu of equity investments in Thailand?

Research Question 3: Did MCAP, $CAP_{G\&L}$, and DIVY Granger-predict MPSto and MPI?

The H_0 of the question was: MCAP, $CAP_{G\&L}$, and DIVY didn't Granger-predict MPSto and MPI; H_1 is shown below.

Δy_t (MPSto) and Δy_t (MPI) $= a_0 + \Sigma\, \beta_{1i}\, y_{t-i} + \Sigma\, \beta_{2i}\, MCAP_{t-i} + \Sigma\, \beta_{3i}\, CAP_{G\&L\ t-i} + \Sigma\, \beta_{4i}\, DIVY_{t-i} + \lambda\, ECM_{t-1} + e_t$

where,

Δy_t (MPSto) = Marginal propensity of stock turnover

Δy_t (MPI) = Marginal propensity to invest in securities markets

a_0 = Intercept

$\beta_{1i} y_{t-1}$ = Coefficient of y, value in the period *t* and before *t*

The same with those for $\beta_{2i}\, MCAP_{t-i\ (market\ capitalization)} + \Sigma\, \beta_{3i}\, CAP_{G\&L\ t-i\ (primary\ market\ capital\ gain/loss)} + \Sigma\, \beta_{4i}\, DIVY_{t-i\ (dividend\ yield)}$ (*short-run equilibrium*)

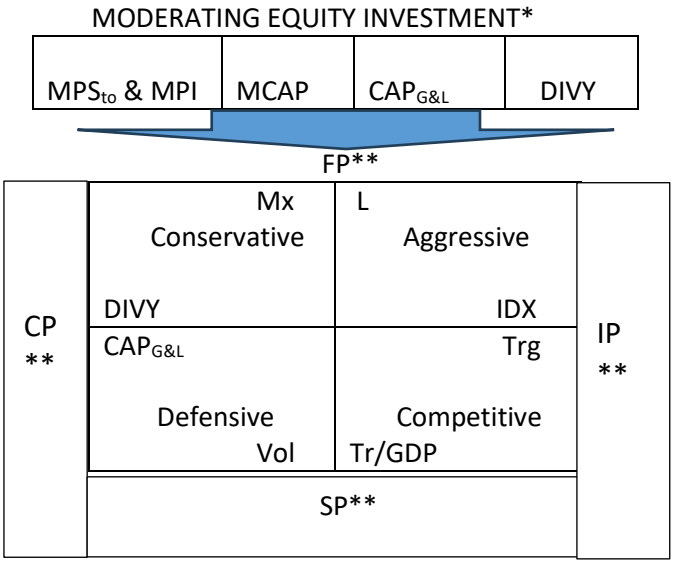
$\lambda\, ECM_{t-1}$ = The λ of the error correction model generates the values that determine the long-run equilibrium in Equity Capital Markets. (*long-run equilibrium*)

et = vector of error terms.

Conceptual Framework

The conceptual framework of the study indicates how equity investments moderate Thai securities investments such as fixed income bank deposits, mutual funds, money market investments, and bonds (see Figure 2).

Figure 2 *Framework of Equity and Alternative Investments*



Source. Matrix model was adapted from David (2023)

*Based on Δy_t (MPSto) and Δy_t (MPI) $= a_0 + \Sigma\, \beta_{1i}\, y_{t-i} + \Sigma\, \beta_{2i}\, MCAP_{t-i} + \Sigma\, \beta_{3i}\, CAP_{G\&L\ t-i} + \Sigma\, \beta_{4i}\, DIVY_{t-i} + \lambda\, ECM_{t-1} + e_t$

**CP = competitive position, IP = industry position, FP = financial position, and SP = stability position

The inter-linkages between moderating equity investment and alternative securities investment were demonstrated by the MPS_{to} and MPI, with the Mx, $CAP_{G\&L}$ and DIVY in the moderating equity and alternative securities investments.

Research Methodology

In this section, data gathering and analysis are considered. A combination of factor analysis was used to assess the strategic positioning of Thai alternative investments and inter-Granger ability to predict MPSto and MPI. Before assessing behavioral characteristics, the cointegration of equity markets after the Asian financial crisis (1997 to 2022) was tested and analyzed for its inter-Granger-predictiveness.

Data Gathering and Analysis

The study data collected were time series panels of Thai investment indicators during the period from 1997 to 2022, particularly for the target variables of Δy_t (MPSto) and Δy_t (MPI), and other independent variables like MCAP, $CAP_{G\&L}$ and DIVY. They were gathered from the World Bank, Bank of International Settlements, and local websites (Stock Exchange of Thailand, Bank of Thailand, Association of Investment Management Companies, and Thai Bond Market Association). For the perceptional ratings on the strategic positioning of securities investment, a Delphi opinion from two economists at the Bangkok Bank in Manila was solicited. The ratings were recorded on a scale from 1 to 10 (1 = *Strongly Unfavorable*; 2 = *Unfavorable*; 3 = *Somewhat Unfavorable*; 4 = *Slightly Unfavorable*; 5 = *Neither Favorable nor Unfavorable*; 6 = *Slightly Favorable*; 7 = *Somewhat Favorable*; 8 = *Favorable*; 9 = *Strongly Favorable*; *and* 10 =-*Extremely Favorable*).

Factor Analysis. The first and second questions were answered by using factor analysis, applying XLStat software. Hair et al.'s (2010) factor analysis model's mathematical formulation is as follows: $\chi_i = \lambda_{i1}F1 + \lambda_{i2}F2 + \ldots \lambda_{in}Fn + \varepsilon_i$ for i = 1, 2, … n,

where

χ_i = Observed variables, which refers to the investments under review,

$\lambda_{i\,j}$ = Factor loadings (weight that relates each factor or F),

F_j = Common factors or latent variables with j = 1, 2, … n, and

ε_i = Errors or any unique factors.

Cointegration Analysis. The third research question was answered by conducting a cointegration analysis using an autoregressive distributed lag (ARDL) for short-run Thailand securities investments cointegration, and Equity Capital Markets to measure the speed of adjustment back to long-run equilibrium after the Asian financial shock. A software package (E-Views) was used to analyze the cointegration equations (Figure 3).

Figure 3 *Cointegration's Prerequisites Heading for ARDL, ECM, and GRANGER*

Shrestha and Bhatta (2018) confirmed that unless the order of integration does not have any unit root or is expressed as I(0), the method of vector autoregressive or VAR should not be used in the co-integration analysis. Instead of a VAR test (Johansen, 2020), the hypothesis was determined through the ARDL, ECM and the Granger-causality relationship to test their predictive power.

Results and Discussion

The factor analysis and cointegration results of alternative securities investments are discussed.

First Research Question–Factors That Influence Thai Investment Decisions

The factors that influenced investments in Thai securities (Table 4) showed that volatility of return, transaction multiples, yield, and liquidity were valued as the highest investment preferences.

Table 4 *Correlation Matrix of Thailand Alternative Securities Investments*

Factors	Tr Growth Trg	INDEX IDX	Yield DIVY	Gain $CAP_{G\&L}$	Multiplier Mx	Liquidity L	%GDP Tr/GDP	Volatility Vol
Trg	**1.000**	-0.448	0.180	-0.874	-0.585	-0.998	-0.153	0.970
IDX	-0.448	**1.000**	0.788	0.238	0.941	0.398	0.327	-0.396
DIVY	0.180	0.788	**1.000**	-0.393	0.588	-0.230	0.399	0.253
$CAP_{G\&L}$	-0.874	0.238	-0.393	**1.000**	0.511	0.872	-0.347	-0.964
Mx	-0.585	0.941	0.588	0.511	**1.000**	0.537	0.040	-0.604
L	-0.998	0.398	-0.230	0.872	0.537	**1.000**	0.156	-0.965
Tr/GDP	-0.153	0.327	0.399	-0.347	0.040	0.156	**1.000**	0.092
Vol	0.970	-0.396	0.253	-0.964	-0.604	-0.965	0.092	**1.000**

Source. XLStat Summary Statistics, August 15, 2024

Bank Deposit Investment Multiples and Volatility of Return

Transaction multiples and volatility of investment return were perceived by Thai investors as important decision points. Correlation *was* .970 for volatility and .941 for transaction multiples, which indicated that the Δ transaction growth and Δ index growth increased, respectively, according to the coefficient correlation. Due to the mechanism of the yield curve, preference for liquidity and capital gains were statistically evaluated as an inverse-type of investment.

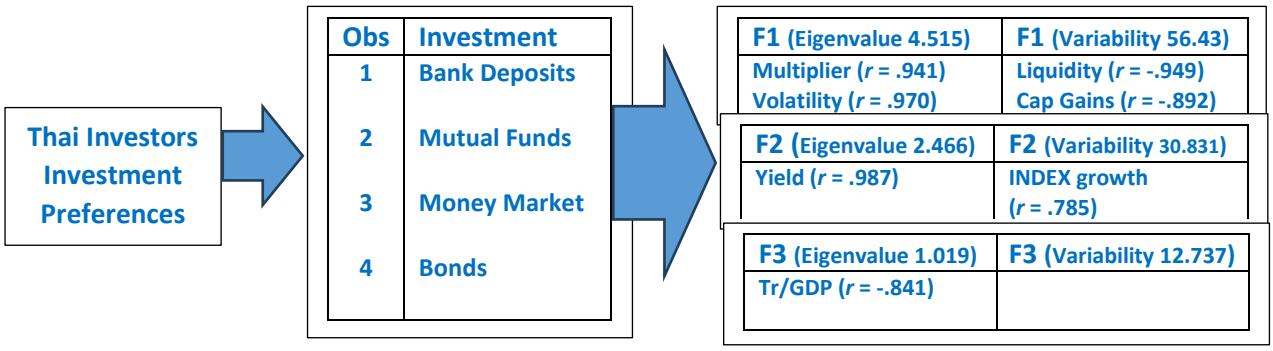
Mutual Fund Yields (r = .987)

Compared to a 4.0% average dividend yield for equity investments, Thai investors considered relatively lower yields for money market and bond investments at 3.6% p.a. and 3.0% p.a., respectively, from the standpoint of faster liquidity. Bank deposits were also a favorite investment.

Money Market Investments (r = -.841)

The negative coefficient of -.841 clearly indicated an inverse relationship with money market investments, which meant that the law of the yield curve worked in Thailand. Thus; if US Dollars, Euros, or other stronger currencies generated good capital gains, then Thai investors would definitely divest from equity markets. Money market transaction for various purposes, by individual Thai investors totaled USD 14.421 billion/day before the COVID-19 pandemic, which was comprised of US Dollars (USD 13.548 billion/day), Euros (USD 1.150 billion/day), Yen (USD 0.793 billion/day), and other currencies, including cross-border USD transactions (1.460 billion/day)–see Figure 4 for details.

Figure 4 *Diagram of Thai Investors' Preference Factors*



Source. Three main factors (F1 to F3) were analyzed using XLStat software to determine Thai investment preferences when compared with equity investments.

Bond Investments

Out of a total of 16.5 trillion Baht, or USD478.6 billion in 2023, the largest trading volume was in government bonds (11.7 trillion Baht, or USD338.5 billion), with relatively lesser transactions in corporate bonds (4.8 trillion Baht) and foreign bonds. Thai investors generally invest in these bonds through their commercial banks, which function as money market agents.

With the Kaiser criterion, Eigenvalues of factors F1 to F3 had values of > 1.0, indicating that the factors explained more variance than a single observed variable; i.e. F1's Eigenvalue of 4.515 > 1.0, F2's Eigenvalue of 2.466 > 1.0, and Eigenvalue of 1.019 > 1.0. This implied that the factors were worth retaining and reliable. In addition, Barlett's test of sphericity yielded a significant result ($p < .001$).

Second Research Question–Strategic Positioning of Thai Securities Investment

To analyze the strategic positioning of alternative securities, the perceptional rating of each type of alternative investment was assessed in terms of why it was chosen instead of equity investments. Based on David's (2023) strategic positioning thought, a four-quadrant positioning matrix was used and modified in terms of investment-relevant contexts. Based on their Competitive, Industry, Financial, and Stability Positions, indicators for alternative securities and equity investments were derived and computed, and are shown in Table 5, including their 10-scale perceptional assessment.

Table 5 *Alternative Securities Investments' Strategic Positioning Indicators and Analysis*

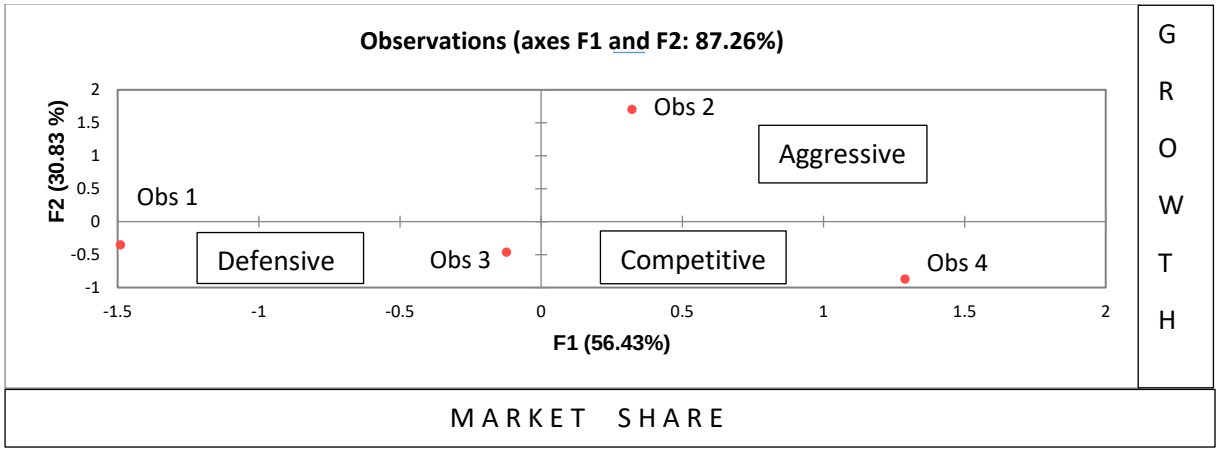
S.P.	FACTOR	EQUITY	DEPOSIT	M F *	M M	BONDS
CP	Yield level (%) – DIVY	4.0%	1.4%	none	3.6%	3.0%
CP	Gain prospect (%) – $CAP_{G\&L}$	4.1%	None	8.6%	1.2%	3.0%
IP	Transaction growth (%) – Trg	10.5%	0.053%	5.3%	1.2%	38.3%
IP	Index growth (%) – IDX	1.6%	5.3%	8.9%	1.2%	3.4%
FP	Transaction multiplier – Mx	2.150	0.438	0.150	0.008	-2.108
FP	Liquidity prospect – L	lesser	Highly	adequate	Highly	adequate
SP	Transaction/GDP (%) – Tr/GDP	77.5%	111.6%	26.9%	2.8%	127.7%
SP	Return volatility – Vol	0.144	0.005	0.086	0.048	0.863

PERCEPTION**	IP (+)	IP (+)	CP (-)	CP (-)	FP (+)	FP (+)	SP (-)	SP (-)
	Trg	IDX	DIVY	$CAP_{G\&L}$	Mx	L	Tr/GDP	Vol
Bank deposits	2	8	6	10	6	10	3	2
Mutual funds	7	9	10	2	5	7	8	9
Money markets	4	5	5	5	2	9	9	6
Bonds	9	3	5	3	1	6	2	10
Sum of (∑)	22	25	26	20	14	32	22	27

Source. World Bank and Global Economy statistics, and Bangkok Bank team in Manila;
*MF = Mutual Fund. MM = Money Market; **A 10-scale rating described in the methodology.

The outcomes of the XLStat factor analysis are reflected in the strategic positioning matrix shown in Figure 5. Observation 1 (bank deposit investments) is positioned in the defensive quadrant. Observation 2 (mutual fund investments) is positioned in the aggressive quadrant. Observation 3 (money market/foreign exchange currency investments) is positioned in the defensive quadrant, and Observation 4 (bond investments) is positioned in the competitive quadrant.

Figure 5 *Strategic Positioning of the Thais' Investments*



Third Research Question–Inter-Granger-Causality of Strategic Positioning

In order to answer the third research question, the control investment group, which was the time series of Thailand's equity market variables, was evaluated in terms of their inter-Granger-causality, but only after testing that the equation was cointegrated.

By means of the unit root test and inter-Granger-causality, the pattern of the cause-and-effects of why Thai investors invested in securities markets was considered in the third research question. The analysis shown in Table 6 reveals a mixture of the order at level I(0) and at first difference I(1), with most *p*-values significant at the .05 level.

Table 6 *Unit Roots Analysis of Thailand Equity Investments (1997-2022)*

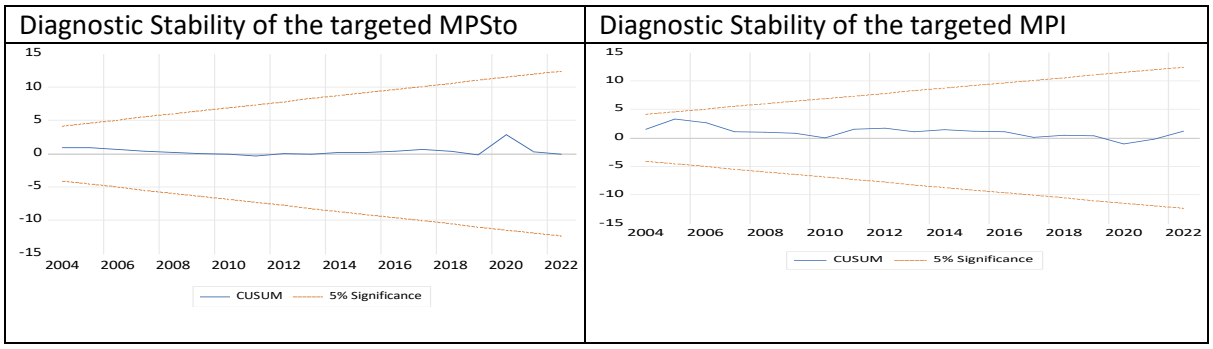
VARIABLE	Augmented Dickey-Fuller			Phillips-Perron (P.P.)			INTEGRATION
	ADF	Sig = 5%	*p*	P.P.	Sig = 5%	*p*	ORDER
MPSto	-8.923	-3.622	.000	n/a	n/a	n/a	I(1)
	n/a	n/a	n/a	-5.680	-3.603	.000	I(0)
MPI	-5.407	-3.603	.001	-4.510	2.986	.002	I(0)
MCAP	-4.729	-3.603	.004	-4.728	-3.603	.005	I(0)
MPSto	-8.923	-3.612	.000	-5.680	-3.603	.000	I(1), I(0)
$CAP_{G\&L}$	-6.289	-3.612	.000	-6.559	-3.612	.000	I(1)
DIVY	-4.368	-3.612	.010	-4.246	-3.612	.014	I(1)

This implies that compliance with the stationarity rule for all variables gave rise to a good level of cointegration in the investment indicators at integration orders I(0) and I(1). MPSto (*F*-Bound = 21.415) and MPI (*F*-Bound = 21.891) had the highest ratios of explained from unexplained variance, with a comfortable level of integration order 1 I(1), which were all greater than 3.380 order of I(1). For the asymptotic *n* = 1000, the 25-year period under observation reflected critical *t*-values of -8.849 and -9.402 for the orders of integration of I(0) and I(1), respectively.

Long and Short Run Cointegration

The analysis demonstrated strong cointegration, particularly for the Thai marginal propensity to invest (MPI) and marginal propensity of stock turnover (MPSto). The *F*-values of 21.891 and 21.415, respectively, were much larger than the orders of integration I(0) and I(1), which were also reinforced by the related *t*-values of -9.402 and -8.849. This indicated that Thai investors were not only actively involved in securities investments in the short run, but also in the long-run. The ECM equation for long-run investment (*MPI – (-41.6 MCAP – 0.056* $CAP_{G\&L}$ *– 0.360 DIVY – 0.226 MPSto)* confirmed this relationship, as well as the diagnostic stability of both variables that were located within the 0.05 upper and lower bounds (refer to Figure 6).

Figure 6 *Diagnostic Stability Chart of the Targeted MPSto and MPI*



The above cointegration shows the power of Granger-predictiveness of DIVY, or yield earned from equity secondary markets, and $CAP_{G\&L}$ or capital gains earned from equity primary markets. For lag times of 4 to 6 years, the predictor power of the primary and secondary yields strongly influenced the propensity to invest in equity markets (MPSto *p*-value = .000), and MPI to invest in alternative securities (MPI *p*-value = ranging from .001 to .002). Equity markets had a 4.0% average yield during the period from 1997 to 2022.

Thai investors also considered mutual fund investments that earned 8.6% per annum on average. Some examples were Kasikorn Dividend Stock Fund (KDSF), Bualuang Top Tier Fund (BTTF), Krungsri Thai Equity Fund (KTEF), UOB Smart Asia Pacific Equity Fund (UOB-SAPEF), SCB Dividend Stock Plus (SCBDP), and others.

Summary of Findings, Implications, and Conclusion

The following findings, implications, recommendations, and conclusion are based on the securities investment patterns adopted by Thai and foreign investors from 1997 to 2022.

Summary of Findings

The present findings are different from previous research findings on the strategic positioning of Thailand's alternative securities investments, particularly in terms of investment preference factors and the cointegrated predictiveness of MPSto and MPI. For example, Songyoo (2012) explored the optimal positioning of Thai spot and future markets, and the Thailand Capital Market (2022) investigated the competitiveness of Thailand's capital market. However, these studies did not address individual investors' strategic positioning of their alternative investments. They addressed themes that differed from those addressed by the present observation on strategic positioning.

1. Factor analysis showed Thai investors' preferences as follows:
    a. Bank deposits were preferred when equity investments and return volatility didn't satisfy their expectations, and
    b. Mutual fund investments were preferred when dividend yields and stock index growth in equity investments didn't satisfy expectations, while liquidity, capital gains prospects, and transaction volume as a percentage of GDP indicated an inverse relationship with those of equity investments.
2. Factor analysis also revealed the following strategic positioning of securities investments, if equity investment outcomes didn't satisfy expectations:
    a. To aggressively invest in mutual funds, as seen in Observation 2,
    b. To competitively invest in bonds, as seen in Observation 4, and
    c. To defensively invest in bank deposits and foreign exchange currencies, as seen in Observations 1 and 3, respectively.
3. In terms of diagnostic stability, the cumulative sums of the two targeted MPSto and MPI indicated a good level of cointegration with strong degrees of diagnostic stability.

Implications and Recommendations

The only implications which might require attention by the Thai government would be to develop the following securities investments more innovatively in the country:

1. Build up the SET and MAI to better compete with neighboring ASEAN-5 countries by increasing the number of listed companies.
2. Expand the country's third party bank deposit funding so that it is more competitive.
3. Tap more Thai high-net-worth investors and foreign investors to invest in Thai mutual funds.
4. Maintain and, if possible, step up foreign exchange transactions to beef up the country's real economy.
5. Evenly develop the private sector's equity trading by increasing corporate bond financing, not just for government financing, but for the private sector.

Conclusion

This study showed a convincing rise in Thailand's marginal propensity of stock turnover and marginal propensity to invest during the period from 1997 to 2022. The time is right for Thailand to focus on innovative development of equity and alternative investments.

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