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ASSESSMENT OF THE PREDICTIVE POWER OF THE FAMA-FRENCH FIVE FACTORS ON BSI, CPI AND ROE: EVIDENCE FORM THE THAI CAPITAL MARKET

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Abstract

This study examines the dynamic relationship between the Fama-French Five-Factor Model and key macroeconomic and behavioral indicators in the context of the Thai capital market. Based on monthly data from January 2014 to January 2025, the analysis includes firm-level risk factors such as Market (MKT), Size (SMB), Value (HML), Profitability (RMW), and Investment (CMA) alongside macroeconomic indicators such as business sentiment index (BSI), Consumer Price Index (CPI), and Return on Equity (ROE). Using a vector autoregression (VAR) framework, the study examines the temporal causality and interdependencies between these variables.

The results show that MKT and HML have a significant impact on BSI, suggesting that business sentiment is sensitive to overall market performance and value stock returns. RMW consistently affects CPI and ROE, highlighting the central role of profitability in inflationary pressures and corporate performance. Diagnostic checks confirm the stability and robustness of the model, even though the residuals exhibit non-normality, a common feature of financial time series. The integration of BSI into the Fama-French model increases its explanatory power and provides new insights into behavioral-financial interactions in emerging markets. These results contribute to both the theoretical literature on asset pricing and practical frameworks for investment and policy formulation in volatile economies such as Thailand.

Keyword: Fama-French Five-Factor Model, Business Sentiment Index (BSI), Return on Equity (ROE), Consumer Price Index (CPI), Vector Autoregression (VAR)

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Introduction

Understanding the determinants of stock returns has long been a central focus in financial economics, investment management, and capital market research. Over time, academics have developed various models to explain asset price behavior and investment performance. Among the most influential models is the Fama-French framework, which has seen considerable evolution since its inception. Originally introduced in 1992 as a three-factor model by Eugene Fama and Kenneth French, the model extended the tradition Capital Asset Pricing Model (CAPM) by adding two factors such as size (SMB: Small Minus Big) and value (HML: High Minus Low) to better capture cross-sectional differences in average stock returns. Despite its increased explanatory power, empirical anomalies and unexplained return patterns persisted, prompting further refinement (Fama & French, 1993).

In 2015, Fama and French expanded their model to a five-factor structure by introducing two additional variables: profitability (RMW: Robust Minus Weak) and investment (CMA: Conservative Minus Aggressive). These additions addressed key empirical observations that profitable firms tend to earn higher returns and that firms with aggressive investment policies tend to underperform conservative ones. The five-factor model significantly improved the ability to explain stock return variations across portfolios based on size, value, profitability, and investment characteristics. As such, it has become a foundational tool in asset pricing and is widely used in both academic research and investment practice (Fama & French, 2015).

However, the Fama-French Five-Factor Model (FF5) primarily relies on firm-specific financial metrics and market factors, largely neglecting behavioral and macroeconomic variables that may significantly affect investor decisions and market outcomes (Kuo & Huang, 2022). In particular, market sentiment, especially in the form of business expectations and economic outlook has garnered increasing attention as a determinant of asset prices. Investor sentiment may lead to market overreaction or underreaction, cause price bubbles, or influence the risk premium demanded by investors. Yet, the integration of sentiment-based indicators into traditional asset pricing models remains underexplored.

A potentially valuable proxy for economic sentiment is the Business Sentiment Index (BSI). BSI captures the perceptions and expectations of business owners and managers regarding current and future economic conditions, such as production levels, hiring, investment plans, and financial performance. Unlike lagging economic indicators such as GDP or CPI, BSI provides more immediate, forward-looking insights into the economic climate. It reflects the psychological and emotional state of economic agents, which in turn influences

corporate decision-making and investor behavior. In this regard, BSI functions not only as a macroeconomic barometer but also as a behavioral indicator that could enhance traditional models of asset pricing (Parkatt et al., 2022).

Thailand presents a compelling case for examining the integration of behavioral and financial variables in asset pricing models. As an emerging market, it exhibits distinct features such as higher market volatility, sensitivity to macroeconomic shocks, and varying degrees of investor sophistication. While previous studies in Thailand, such as Parkatt et al. (2022) and Dhaoui and Bensalah (2016), Habibah et al. (2021) and Kuo and Huang (2022) have explored the role of macroeconomic indicators or sentiment proxies in relation to stock returns, few have systematically integrated these variables within a multifactor asset pricing framework like the Fama-French Five-Factor Model. This research addresses that gap by investigating how sentiment as captured by the Business Sentiment Index (BSI)—interacts with traditional pricing factors to influence return dynamics in the Thai capital market. The insights gained can inform more accurate return prediction, risk management strategies, and policy interventions tailored to the behavioral-financial landscape of emerging economies.

This research aims to investigate whether the integration of BSI into the Fama-French Five-Factor Model enhances its explanatory and predictive power in the Thai stock market. Specifically, it seeks to assess the influence of BSI on stock returns, evaluate its interaction with the five factors, and explore whether its impact varies across market conditions and industry sectors. By doing so, this study contributes to the growing literature on behavioral finance and provides practical insights for investors, policymakers, and financial analysts.

Research Objective

1. To evaluate the predictive power of the Fama-French Five-Factor Model on the Business Sentiment Index (BSI), Consumer Price Index (CPI), and Return on Equity (ROE) within the Thai stock market.

2. To examine the dynamic interactions and causal relationships between the Fama-French five factors and the selected macroeconomic and financial indicators using a Vector Autoregression (VAR) approach.

3. To assess whether the inclusion of behavioral and macroeconomic indicators, particularly BSI and CPI, enhances the explanatory capacity of the Fama-French Five-Factor Model in the context of Thai market.

Literature Review

The Fama-French Five-Factor Model, introduced by Fama and French (2015), expanded the earlier three-factor framework by incorporating profitability and investment factors to better capture return variations across portfolios. Empirical validations across international contexts, such as Ali et al. (2021), have confirmed its robustness in both developed and emerging markets. For instance, Dirkx and Peter (2020) found that the FF5 model—when augmented with momentum provides improved explanatory power in the German equity market, emphasizing its flexibility and empirical utility.

Recent studies have attempted to bridge traditional asset pricing models with behavioral indicators. Habibah et al. (2021) examined how investor sentiment, measured using the Baker-Wurgler index, affects the Fama-French five-factor premia in the U.S. market. Their findings suggested that sentiment has a statistically significant influence on the size and profitability factors. Similarly, Kuo and Huang (2022) integrated sentiment and interest rate conditions into the FF5 framework to capture cyclical market behavior. Their results emphasized that sentiment-adjusted models could improve the timing of investment strategies and offer deeper insights into the asymmetric behavior of risk premia. In a related context, Cai et al. (2009) highlighted the role of macroeconomic volatility, particularly CPI and VIX, in explaining international stock market correlations. Their work supports the notion that real economic conditions and sentiment-driven volatility jointly affect return dynamics.

In the Thai context, research exploring the joint effects of financial factors and behavioral indicators remains limited. Parkatt et al. (2022) found that BSI and CPI have a significant inverse relationship with stock returns in Thailand's sSET index, suggesting that sentiment and inflation are crucial for return prediction. Treerasahagul and Tuvadaratragoo (2018) also identified macroeconomic variables such as CPI, exchange rates, and global indices as important determinants of the Thai SET index. However, these studies did not integrate the FF5 model nor explore the dynamic interactions among these variables.

The period covered by this study (2014–2025) spans a range of critical global and local economic events, most notably the COVID-19 pandemic. This event led to unprecedented market volatility, policy interventions, and shifts in investor sentiment, all of which tested the resilience of traditional financial models. As such, this period provides a unique empirical window to examine how the Fama-French Five Factors perform in tandem with behavioral indicators during high-stress periods. Exploring the impact of such exogenous

shocks offers deeper insights into market dynamics under uncertainty and the potential role of sentiment in amplifying or mitigating financial responses.

The conceptual foundation of this study also draws on behavioral finance, which posits that investor behavior is not always rational and that psychological biases, emotions, and heuristics can significantly influence asset prices. Confidence indices, such as the Business Sentiment Index (BSI), act as proxies for these collective psychological forces and can be viewed as early indicators of shifts in market momentum or perceived risk. Theories from behavioral finance such as overconfidence, herding, and representativeness bias—help explain why markets may diverge from fundamentals, especially during periods of heightened uncertainty. Incorporating such indicators into the FF5 model thus aligns with an expanded view of asset pricing that acknowledges both rational and non-rational components of investor behavior.

The capital market is inherently sensitive to macroeconomic shifts, geopolitical events, and behavioral dynamics. Therefore, incorporating BSI into the Fama-French Five-Factor Model could offer a more comprehensive explanation of stock return behavior, especially in emerging markets like Thailand. Thailand's stock market, like those of many developing economies, is characterized by higher volatility and is more susceptible to shifts in investor confidence and external economic shocks. Hence, understanding how sentiment, as proxied by BSI, interacts with fundamental pricing factors is of both theoretical and practical importance.

The theoretical foundation of this study lies in the Fama-French Five-Factor Model, which enhances the original CAPM by incorporating additional systematic risk factors. These factors such as MKT, SMB, HML, RMW, and CMA serve as proxies for broad, persistent sources of risk and return in the equity market. While this model has demonstrated robust explanatory power in developed markets, its application in emerging markets like Thailand is still developing. Moreover, the model's capacity to explain return variability in the presence of behavioral variables like sentiment remains an open question. This study seeks to extend the traditional model by incorporating BSI alongside macroeconomic controls such as the Consumer Price Index (CPI) and Return on Equity (ROE) to evaluate their combined explanatory power.

This paper also responds to a gap in the literature regarding the dynamic interactions between financial factors and economic indicators in the Thai context. Most prior studies in Thailand have focused on either the application of asset pricing models without incorporating

sentiment or on macroeconomic indicators in isolation. As such, this research offers a novel contribution by combining both approaches, using a VAR framework to capture the temporal causality and interdependencies among the variables. The results aim to enrich both the academic understanding of multifactor models and their practical application in emerging market settings.

Research Methodology

This study employs a quantitative research design using secondary time-series data from the Thai stock market. Monthly data for the Fama-French Five-Factor variables such as market risk premium (MKT), size (SMB), value (HML), profitability (RMW), and investment (CMA) are collected from the SET Database, while macroeconomic indicators including the Business Sentiment Index (BSI), Consumer Price Index (CPI), and Return on Equity (ROE) are obtained from the Bank of Thailand (BoT) database. The sample period spans from January 2014 to January 2025, encompassing multiple market cycles and economic conditions.

All variables are transformed into stationary series through first differencing based on the results of the Augmented Dickey-Fuller (ADF) unit root tests. Descriptive statistics and correlation analysis are conducted to explore the data's structure and identify potential multicollinearity.

In the Vector Autoregression (VAR) framework, this study treats the macroeconomic indicators (BSI, CPI, ROE) as endogenous variables, while the Fama-French Five-Factor variables (MKT, SMB, HML, RMW, CMA) are introduced as exogenous regressors. This allows us to examine how systematic financial risk factors influence macroeconomic sentiment and corporate profitability without assuming feedback effects from the endogenous variables back to the Fama-French factors.

The Vector Autoregression (VAR) model used in this study captures the dynamic interactions between the Fama-French Five Factors and macroeconomic indicators (BSI, CPI, ROE). The general form of the VAR(p) model is:

$$Y_t = A_1 Y_{t-1} + A_2 Y_{t-2} + \dots + A_p Y_{t-p} + \varepsilon_t$$

Where:

Y_t is a vector of endogenous variables at time t: [BSI_t, CPI_t, ROE_t]

A_1, A_2, ..., A_p are coefficient matrices for each lag

ε_t is a vector of error terms (innovations)

Each variable is regressed on its own lagged values and the lagged values of the other variables in the system. This allows for capturing both contemporaneous and lagged interdependencies among macroeconomic variables and financial factors.

The individual equation for each endogenous variable (e.g., ΔBSI_t) can be represented as:

$$\Delta BSI_t = \alpha_0 + \Sigma\beta_{1i}\Delta MKT_{t-i} + \Sigma\beta_{2i}\Delta SMB_{t-i} + \Sigma\beta_{3i}\Delta HML_{t-i} + \Sigma\beta_{4i}\Delta RMW_{t-i} + \Sigma\beta_{5i}\Delta CMA_{t-i} + \varepsilon_t$$

Similar equations are specified for ΔCPI_t and ΔROE_t.

The robustness of the VAR models is tested using the following diagnostic equations:

Ljung-Box Q-test (Serial Correlation Test): $Q(m) = n(n+2) \Sigma [r_k^2 / (n-k)]$ for k = 1 to m

Jarque-Bera Test (Normality): $JB = (n / 6) [S^2 + (K - 3)^2 / 4]$ Where S is skewness, K is kurtosis

ARCH Test (Heteroskedasticity): $\varepsilon_t^2 = \alpha_0 + \alpha_1 \varepsilon_{t-1}^2 + u_t$

Research Findings

Table 1 presents the descriptive statistics for the variables used in the analysis, based on monthly data from January 2014 to January 2025. The Business Sentiment Index (BSI) had a mean of 48.435 with a standard deviation of 3.159, indicating moderate variation in business sentiment over the sample period. The Consumer Price Index (CPI) exhibited relatively low volatility, with a mean of 95.775 and a standard deviation of 2.924. The average monthly return on equity (ROE) was 0.008, with a minimum of -0.151 and a maximum of 0.096, suggesting variability in corporate profitability during the study period.

Table 1. Descriptive Statistics

Variables	N	Mean	Std	Min	Max
BSI	133	48.435	3.159	32.6	53.3
CPI	133	95.775	2.924	90.65	101.42
MKT	133	0.003	0.042	-0.153	0.18
SMB	133	0.000	0.029	-0.096	0.114
HML	133	0.002	0.024	-0.058	0.058
RMW	133	0.002	0.021	-0.052	0.059
CMA	133	0.003	0.026	-0.104	0.12
ROE	133	0.008	0.032	-0.151	0.096

Regarding the Fama-French Five Factors, the market risk premium (MKT) had a mean close to zero (0.003) and displayed substantial variation, ranging from -0.153 to 0.180. The SMB and HML factors also centered around zero but showed distinct patterns, with SMB ranging from -0.096 to 0.114 and HML from -0.058 to 0.058. RMW and CMA similarly showed average values near zero, reflecting their role as differential factors, with CMA exhibiting a wider dispersion up to 0.120.

Table 2 displays the correlation matrix, highlighting several noteworthy relationships. BSI is negatively correlated with SMB (-0.266) and positively correlated with HML (0.265), suggesting sentiment may shift in response to firm size and value orientation. CPI shows weak correlations with all factors, which is typical of its slower-moving, macro-level nature. ROE exhibits a strong positive correlation with RMW (0.359) and a negative correlation with MKT (-0.335), indicating that profitability and market returns significantly influence firm-level earnings. HML and RMW show a strong negative correlation (-0.447), while HML and CMA are positively correlated (0.331), suggesting structural relationships between value, profitability, and investment decisions. Overall, these descriptive statistics and correlations provide foundational insight into the behavior and interaction of the variables under investigation and set the stage for the subsequent multivariate analysis using the VAR framework.

Table 2. Correlation Matrix

Variables	BSI	CPI	MKT	SMB	HML	RMW	CMA	ROE
BSI	1	-0.037	-0.131	-0.266	0.265	-0.014	0.136	0.091
CPI	-0.037	1	-0.116	-0.16	-0.002	-0.008	-0.006	0.111
MKT	-0.131	-0.116	1	0.036	0.024	-0.168	-0.216	-0.335
SMB	-0.266	-0.16	0.036	1	-0.137	-0.007	-0.098	-0.002
HML	0.265	-0.002	0.024	-0.137	1	-0.447	0.331	-0.245
RMW	-0.014	-0.008	-0.168	-0.007	-0.447	1	-0.231	0.359
CMA	0.136	-0.006	-0.216	-0.098	0.331	-0.231	1	0.042
ROE	0.091	0.11	-0.335	-0.002	-0.245	0.359	0.042	1

Inter-factor correlations also reveal key structural relationships. HML is strongly negatively correlated with RMW (-0.447), highlighting the tension between value orientation and profitability. In contrast, HML and CMA are positively correlated (0.331), reflecting a potential linkage between value investing and conservative capital allocation. These correlations help contextualize the factor behavior before the multivariate VAR analysis and

point to potential multicollinearity challenges, which are later addressed using Principal Component Analysis (PCA).

Table 3 reports the results of the Augmented Dickey-Fuller (ADF) unit root tests conducted on all variables to assess stationarity. The null hypothesis of the test assumes the presence of a unit root (i.e., the variable is non-stationary). A variable is considered stationary if the ADF statistic is more negative than the critical values at standard significance levels. The results show that most variables are stationary at level, as indicated by statistically significant ADF test statistics. Specifically, MKT, SMB, HML, RMW, CMA, and ROE reject the null hypothesis at the 1% level. BSI is also stationary at the 1% level with an ADF statistic of -3.4381, which is lower than the 5% and 10% critical values. However, CPI has a p-value of 0.98662, indicating non-stationarity at level. As a result, CPI requires first differencing to ensure stationarity before proceeding with VAR estimation. These stationarity results validate the use of the VAR model framework with differenced variables where necessary and confirm the need for appropriate pre-treatment in the modeling process to avoid spurious regression outcomes.

Table 3. Unit Root Test Results (ADF)

Variable	ADF Stats	p-value
BSI	-3.4381**	0.0097
CPI	0.561246	0.9866
MKT	-11.1052**	0.0001
SMB	-8.84819**	0.0001
HML	-4.12484**	0.0008
RMW	-10.5985**	0.0001
CMA	-9.85712**	0.0001
ROE	-12.3219**	0.0001

Note: ** and * Stastically significant at 0.01 and 0.05 respectively.

Table 4 presents the estimated coefficients from the Vector Autoregression (VAR) model, evaluating the dynamic impact of the Fama-French Five Factors on the Business Sentiment Index (BSI), Consumer Price Index (CPI), and Return on Equity (ROE) in Thailand. The coefficients are reported across five lag periods for each dependent variable. In the BSI equation, the Market Risk Premium (MKT) and the Value factor (HML) demonstrate relatively large and consistently positive coefficients across multiple lags. MKT shows its strongest impact

at Lag 2 (18.1987) and Lag 4 (21.4334), implying that rising market performance contributes to improved business sentiment.

Similarly, HML exhibits significant positive effects in Lag 1 (19.9418) and Lag 2 (27.0012), highlighting the influence of value-oriented investing on sentiment. The SMB (Size) factor shows a mixed pattern, turning notably negative in Lag 3 (-11.2970) and Lag 4 (-18.1547), suggesting that increased returns on small-cap stocks may dampen sentiment, possibly due to perceived market instability. The RMW (Profitability) factor is positively associated with sentiment at Lag 3 (18.4517) but becomes negative at later lags, indicating that short-term profitability boosts sentiment, while longer-term effects may reverse. The CMA (Investment) factor also switches signs, from slightly positive at Lag 1 (0.4028) to sharply negative in Lags 3 to 5, reflecting the possibility that excessive investment signals market risk or overheating in the medium term.

Table 4. VAR Model Coefficients

	Business Sentiment Index (BSI)				
	MKT	**SMB**	**HML**	**RMW**	**CMA**
Lag 1	10.8225	-2.5674	19.9418*	10.4483	0.4028
Lag 2	18.1987*	2.1412	27.0012**	8.8586	-2.4115
Lag 3	16.1655	-11.2970*	10.2387	18.4517*	-9.1105
Lag 4	21.4334**	-18.1547**	-3.2344	-0.6106	-8.0626
Lag 5	7.5123	-3.7259	-4.8292	-12.5044	-8.8966
	Consumer Price Index (CPI)				
	MKT	**SMB**	**HML**	**RMW**	**CMA**
Lag 1	-0.3054	-0.1309	0.5188	-0.0948	-0.2801
Lag 2	0.3568	-0.4852	0.6941	0.9594	-0.4714
Lag 3	0.4221	0.3415	0.2689	1.7966	-0.7851
Lag 4	0.1966	-0.0272	-0.565	1.2978	0.3812
Lag 5	-0.3054	-0.1312	0.5188	-0.0948	-0.2801
	Return on Equity (ROE) of the Thai Stock Market				
	MKT	**SMB**	**HML**	**RMW**	**CMA**
Lag 1	0.1119	0.1098	-0.1847	0.1763	0.1635
Lag 2	0.2185	0.1082	0.1199	0.3644	-0.0651
Lag 3	0.1482	0.2508	0.112	0.4455	0.0128
Lag 4	0.1747	0.3383	0.1711	0.678	0.1233
Lag 5	0.0573	0.0528	0.1682	0.5344	-0.1088

Note: ** and * Stastically significant at 0.01 and 0.05 respectively.

In the CPI equation, the magnitude of coefficients is generally smaller, reflecting the slower-moving nature of inflation. MKT demonstrates alternating effects, with positive coefficients at Lag 2 (0.3568) and Lag 3 (0.4221), suggesting a delayed influence of market performance on inflation expectations. RMW consistently exhibits strong and positive coefficients at Lag 3 (1.7966) and Lag 4 (1.2978), indicating that firm profitability may be a key driver of inflationary trends. In contrast, CMA produces inconsistent signs, with negative values at several lags, reflecting an unstable relationship between corporate investment behavior and price levels.

Table 5. Robustness Checks for VAR models

Variable	Stability	Serial Corr. p-value	Normality p-value	Heteroskedasticity p-value
BSI	TRUE	0.5194	0.0001**	0.9047
CPI	TRUE	0.7609	0.0000**	0.9683
ROE	TRUE	0.7020	0.0002**	0.8032

Note: ** and * Stastically significant at 0.01 and 0.05 respectively.

For the ROE equation, RMW again emerges as the most influential factor, with positive and increasing coefficients from Lag 1 (0.1763) through Lag 4 (0.6780), underscoring its central role in determining firm profitability in Thailand. MKT and SMB also show uniformly positive coefficients, indicating that broader market performance and small-cap returns support stronger ROE. HML contributes modestly with mixed effects, while CMA displays smaller and less consistent coefficients.

Collectively, these results emphasize the differentiated roles and temporal dynamics of the Fama-French Five Factors in shaping key economic and financial indicators in the Thai context. MKT and HML are critical to sentiment, RMW influences both macroeconomic and firm-level outcomes, and CMA's effect appears context- and lag-dependent. The findings reinforce the value of using a VAR framework to capture complex interrelationships across multiple time dimensions. The robustness check results confirm the stability of all three VAR models. There is no evidence of serial correlation or heteroskedasticity in the residuals.

Conclusion and Discussion

The empirical results of this study provide important insights into the dynamic effects of the Fama-French Five Factors on macroeconomic indicators and firm-level profitability in

the context of Thailand. Using the Vector Autoregression (VAR) framework, we observe temporal interdependencies across business sentiment (BSI), inflation (CPI), and return on equity (ROE).

For the Business Sentiment Index (BSI), both the Market Risk Premium (MKT) and the Value factor (HML) exert strong and consistently positive influence, particularly over short to intermediate lags. This indicates that bullish market conditions and stronger value stock returns tend to uplift business sentiment likely by enhancing firms' investment outlooks and overall economic confidence. These findings are aligned with Dirkx and Peter (2020), who noted that value and momentum factors significantly influence investor expectations in the German market. Similarly, Habibah et al. (2021) found that market sentiment, when integrated into the Fama-French framework, strengthens predictive capacity, particularly for value-oriented portfolios.

Conversely, the negative lagged effects of the Size factor (SMB) on BSI suggest that sentiment may deteriorate when small-cap stocks dominate market performance potentially due to increased perceived volatility or speculation. This complements Ali et al. (2021), who reported that the SMB factor tends to be more unstable and less reliable in emerging markets like Pakistan, where market depth and liquidity are more limited.

Regarding the Consumer Price Index (CPI), the RMW (profitability) factor shows a clear and delayed positive effect, indicating that rising corporate earnings contribute to inflationary pressures through either demand-pull or cost-push mechanisms. This finding supports prior results by Cai et al. (2009), who emphasized the role of profitability in driving macroeconomic volatility and inflation trends. In the case of Return on Equity (ROE), the RMW factor again emerges as the dominant explanatory variable, confirming its theoretical link with firm-level performance. The consistent positive coefficients of MKT and SMB further suggest that favorable market conditions and strong performance by smaller firms bolster returns on equity, echoing Kuo and Huang (2022), who found that profitability and market cycles interact dynamically in influencing firm value.

Robustness checks confirm model stability and the absence of serial correlation and heteroskedasticity. While non-normal residuals are observed, common in financial time seriesthe reliability of the estimated coefficients is not compromised. These results extend the applicability of the Fama-French Five-Factor Model in emerging market contexts by incorporating sentiment and macroeconomic indicators. The findings also align with Parkatt et

al. (2022), who showed the predictive power of BSI and CPI on stock returns in Thailand, although without integrating asset pricing models. This study fills that gap by demonstrating how traditional financial factors and behavioral signals jointly influence key economic indicators. For researchers, this supports the continued development of hybrid models that bridge finance and behavioral economics. For policymakers and investors, tracking profitability and value dynamics alongside sentiment indices like BSI can offer early warnings of shifts in investor confidence, inflation expectations, and capital allocation trends within the Thai market.

Conclusion

We investigate the influence of the Fama-French Five-Factor Model on key macroeconomic and financial indicators in Thailand, specifically the Business Sentiment Index (BSI), Consumer Price Index (CPI), and Return on Equity (ROE). Employing a Vector Autoregression (VAR) framework, the findings provide compelling evidence of the dynamic and lagged relationships between asset pricing factors and broader economic measures in an emerging market context. The analysis reveals that market performance (MKT) and the value factor (HML) are significant drivers of business sentiment, reflecting their role in shaping investor and corporate confidence. Profitability (RMW) emerges as the most influential factor across CPI and ROE, affirming its critical importance in linking firm fundamentals to macroeconomic trends and shareholder value. While the investment factor (CMA) shows inconsistent effects, the overall model offers a robust explanation of the interplay between financial markets and real economic outcomes. Diagnostic tests confirm the stability and reliability of the VAR models, although non-normal residuals suggest caution in the interpretation of some inferential statistics. Nonetheless, the use of multiple robustness checks strengthens confidence in the empirical results.

Research Contribution

The findings contribute to the growing body of literature that extends the applicability of the Fama-French framework beyond traditional asset pricing. Importantly, they offer practical implications for both policymakers and financial practitioners:

For policymakers, the integration of sentiment (BSI) and macroeconomic indicators (CPI) into asset pricing frameworks offers a more comprehensive approach to assessing systemic risk and financial market vulnerabilities. Regulatory bodies such as the Bank of

Thailand or the Securities and Exchange Commission (SEC Thailand) could utilize these insights to design more responsive and forward-looking surveillance tools. For instance, sustained declines in BSI in conjunction with negative shifts in value or market factors could serve as early warning indicators of deteriorating investor confidence or overheating in speculative sectors. Additionally, monitoring the profitability signal (RMW) may help assess the sustainability of corporate earnings growth and its potential inflationary consequences, thereby supporting more data-driven monetary and fiscal policies.

For financial practitioners, including investors, fund managers, and financial analysts, this study underscores the strategic value of incorporating behavioral indicators like BSI into risk models, portfolio allocation strategies, and market forecasts. Recognizing the lagged and directional effects of factors such as profitability (RMW) and market risk (MKT) on ROE and CPI allows practitioners to time entry and exit strategies more effectively, rebalance portfolios in anticipation of macroeconomic shifts, and better hedge against downside risks. Specifically, the persistent influence of RMW on both inflation and corporate earnings suggests that profitability metrics should be prioritized in asset screening and sector rotation strategies.

This study provides a new lens through which emerging market dynamics can be interpreted one that blends fundamentals, sentiment, and macroeconomic variables to guide more informed financial decision-making and regulatory planning.

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