

Investor Sentiment, Foreign Equity Flows, and Equity Returns in Thailand Stock Markets

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Abstract

This research examines the dynamic linkages among aggregate foreign equity flows to Thailand, their equity returns, and measures of sentiment. We will explore the dynamic relationships among these variables around a variety of exogenous shocks. Furthermore, we will explore the impact of foreign investment on two different market indices: The Stock Exchange of Thailand (SET) and the Market for Alternative Investment (mai). These two indices are very different in terms of size, liquidity and foreign participation and will allow us to explore the relationship between foreign investment, returns, and sentiment in two very different market settings. Foreign equity flows have important policy implications for middle income countries and this research aims to help policy makers and investors better understand the motivations for these flows.

Keywords: *Investor Sentiment; Portfolio Equity Flows; Equity Returns; Financial crises*

JEL classification: *F14; F21; F30*

1. Description of Proposed Research

International equity flows are an important policy issue in rapidly growing emerging markets. As the developed world struggles to maintain anemic growth rates, small open economies in the developing world are experiencing rapid growth. The rapid growth of these economies in past three decades have drawn tremendous interest from foreign investors. Many emerging economies are dependent on capital flows and sudden reversals have in the past been associated with severe destabilizing effects. In spite of these justifiable concerns and the substantial growth in the equity markets of emerging markets during the last two decades, relatively few studies analyze the dynamic relationships among equity flows, equity returns, and sentiment. Existing empirical evidence indicates a strong relationship between inflows of foreign capital and equity market returns for emerging as well as developed markets. What is not settled is the interpretation of the relationship and implications of the role of foreign investors in these markets.

The primary objective of this research is to examine the dynamic relationships among foreign equity flows to Thailand, their equity returns, and proxies of investor sentiment. The reason Thailand was selected as a case study for this research is due to superior data availability and the fact that Thailand was the most severely impacted small open economy in the 1997 financial crisis. Additionally, Thailand complies foreign equity flows into two separate markets, which will allow us to uncover the impact of sentiment and equity flows on markets within a country, but of different sizes. Figures 1 and 2 display the heterogeneous relationship between returns and foreign equity flows into these two segmented markets.

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This research will have direct implications to policy makers in predicting equity flows, so to avoid undesirable consequences of sudden reversals. In addition, this research will add the academic debate on the question of the impact of behavioral finance variables on international portfolio allocation decisions. Recent history shows the timeliness of these research questions as emerging market economies have seen massive currency devaluations as foreign investors in many economies have withdrawn highly liquid portfolio equity flows.

2. Literature Review

We review studies in the areas of investor sentiment and equity returns, and foreign equity flows and equity returns. Numerous studies have explored the relationship between investor sentiment and equity returns [e.g., Fisher and Statman (2000, 2003), Baker and Wurgler (2006), Brown and Cliff (2005), Bathia and Bredin (2013)]. These studies find that high (low) investor sentiment is associated with low (high) future equity returns. Several sentiment proxies have been developed to examine their effect on equity returns, such as the Consumer Confidence Index² and Investor Intelligence (II) survey, closed-end fund discount, mutual fund flows, share turnover, and the first-day returns on IPOs.

Research conducted in the United States document that the Consumer Confidence Index and Investor Intelligence survey are useful to predict small-cap equity returns or subsequent equity returns [e.g., Lemmon and Portniaguina (2006), Brown and Cliff (2004), and Qiu and Welch (2006)]. Zweig (1973) and Lee et al. (1991) show that the size of the closed-end fund discount is inversely related to investor sentiment. Fund flows have also demonstrated predictive power of equity market returns [e.g. Warther (1995), Edelen and Warner (1998), Cha and Lee (2001), Brown et al. (2002)].

Market liquidity such as turnover, suggested by Baker and Stein (2004), is another sentiment proxy. The first day returns on IPOs are associated with investor enthusiasm, and often reflect that IPOs are underpriced [e.g., Ritter (2003) and Ljungqvist (2006)]. Baker and Wurgler (2006) combine closed-end fund discount, NYSE share turnover, the number and average first day returns on IPOs, the equity share in new issues, and dividend premium to construct a composite sentiment index. Their composite sentiment index is commonly used in the recent research.

The other strand of research examines the relationship between foreign equity flows and equity returns. Prior studies document return chasing or feedback trading behavior. Previous high (low) equity returns in a local market are associated with subsequent foreign equity inflows (outflows) [e.g., Barberis et al. (1998), Jegadeesh and Titman (1993, 2001), Shleifer (2000), Froot and Ramadorai (2001), Griffin et al. (2004), and Tsai (2009)]. Other studies examine the information contribution of foreign equity flows and the permanent and temporary effect on equity return [Scholes (1972), Kraus and Stoll (1972), Dann et al. (1977), Froot and Ramadorai (2001), Harris and Gurel (1986), and Tsai (2009)]. These studies conclude a positive relationship between past or current foreign equity flows and current equity returns in a local market.

A recent study by Yupho and Huang (2014) investigate the determinants of portfolio capital flows in Thailand. The evidence in Yupho and Huang (2014) partially support that internal and external factors are determinants of capital flows. However, the focus of Yupho and Huang's paper is different from the current research. In reviewing prior literature of investor sentiment, foreign equity flow, and equity returns, we find that none of the studies has simultaneously explored these three variables in the Thailand stock market.

² In the United States this survey is conducted by the University of Michigan.

The empirical evidence uncovered in this research will shed light the importance of considering both investor sentiment and portfolio equity flows in determining equity returns.

3. Description of Data and Methodology

3.1 Data

The data of foreign equity flows will be obtained from the Stock Exchange of Thailand. This dataset contains the foreign equity flows to the Stock Exchange of Thailand (SET) and the Market for Alternative Investment (mai). The data of foreign equity flows are in monthly frequency, and start from January of 1995 to the present. However, the foreign equity flows to the Market for Alternative Investment are only available from September of 2001 to the present.

Baker and Wurgler (2006) use six proxies for sentiment to construct a composite sentiment index. As per our available data, the share turnover and dividend premium³ for SET and mai are used as sentiment proxies. The data of volume, shares outstanding, share price, return, book value of equity, dividends, interest rates, and exchange rate will be obtained from Bloomberg L.P.

3.2 Methodology

This study employs a structural vector autoregression (SVAR) methodology to explore the dynamic relationship of investor sentiment, foreign equity flows, and equity returns in Thailand stock markets. The VAR model in our framework is specified as:

$$Y_t = A + \sum_{j=1}^k B_j Y_{t-j} + \Gamma X_t + \varepsilon_t \quad (1)$$

where Y_t is a vector of endogenous variables, $Y_t = [Sentiment_t, FEFMC_t, EXRET_t]'$, *sentiment* denotes investor sentiment, *FEFMC* is the net foreign equity flows scaled by the market capitalization of SET (or mai), and *EXRET* is the monthly return on the SET (or mai) index in excess of the monthly return on the world equity index; X_t is a vector of exogenous variables, which include volatility, world interest rate, exchange rate, and crisis month dummy, volatility is the standard deviation of the monthly return on the SET (or mai) index, and crisis month dummy is a dummy variable which carries the value of 1 if the month is in the financial crisis period, and 0 otherwise; A is a 3×1 vector of intercepts; B_j and Γ are 3×3 coefficient matrices. The time period is $t = 1, 2, 3, \dots, T$ in the VAR model. The market share turnover and dividend premium are substituted for *sentiment* in the VAR model for estimation.

As the VAR model requires variables to be stationary, we will perform a standard Augmented Dickey Fuller test to examine the stationary of these variables. The selected sample period in this study will be from January of 1995 to August of 2014, which include the Asian currency crisis and the most recent global financial crisis periods. This study will use the CMAX ratio as in Patel and Sarkar (1998) and Coudert and

³ Baker and Wurgler (2006) define dividend premium as the difference in log of the average market-to-book ratios of dividend payers and non-dividend payers.

Gex (2008) to identify a financial crisis month.⁴ Following Patel and Sarkar (1998) and Coudert and Gex (2008), we will define a month as a financial crisis month if its CMAX ratio falls below two standard deviations of the mean CMAX in the rolling 24-month period. The Sims (1986) and Bernanke (1986) method of imposing contemporaneous restrictions in the SVAR model will be applied to decomposing the impulse response functions.

The existing literature documents a negative relationship between investor sentiment and future returns. We will test this sentiment hypothesis that lagged high (low) investor sentiment leads to a low (high) *EXRET*. Studies of return chasing or feedback trading behavior show that past high (low) equity returns are associated with current foreign equity inflows (outflows).⁵ The return chasing hypothesis suggests a positive relationship between lagged *EXRET* and *FEFMC*. The other strand of research suggests that current or past foreign equity flows, whether contain information of market fundamentals, have a permanent or temporary effect on local equity returns.⁶ This information contribution hypothesis suggests a positive relationship between lagged or current *FEFMC* and current *EXRET* in the current study. A few studies document that equity fund flows are a proxy for investor sentiment [e.g., Warther (1995), Edelen and Warner (1998), Cha and Lee (2001), Brown et al. (2002), Frazzini and Lamont (2008)]. Although foreign equity flows and equity fund flows are not equivalent, we can infer the relationship between investor sentiment and foreign equity flows. If foreign equity flows are primarily driven by rational aggregate demand of equity, investor sentiment and foreign equity flows are not or negatively correlated. On the other hand, investor sentiment and foreign equity flows are positively correlated if foreign equity flows reflect the irrational aggregate demand of equity.

⁴ The CMAX ratio, defined in Patel and Sarkar (1998), is the ratio of an index level in month t to the maximum of an index level for the period up to month t . Usually a rolling 24-month period is chosen for computing the CMAX ratio [see Coudert and Gex (2008)].

⁵ Please see Barberis et al. (1998), Jegadeesh and Titman (1993, 2001), Shleifer (2000), Froot and Ramadorai (2001), Griffin et al. (2004), and Tsai (2009).

⁶ Please see Scholes (1972), Kraus and Stoll (1972), Dann et al. (1977), Froot and Ramadorai (2001), Harris and Gurel (1986), and Tsai (2009).

Figure 1

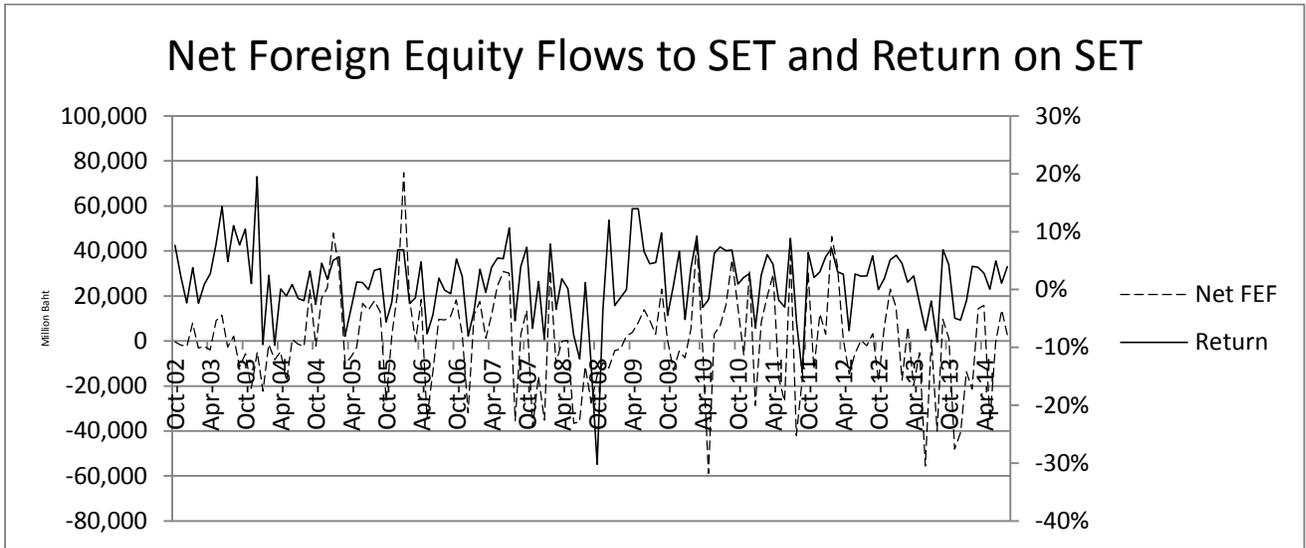
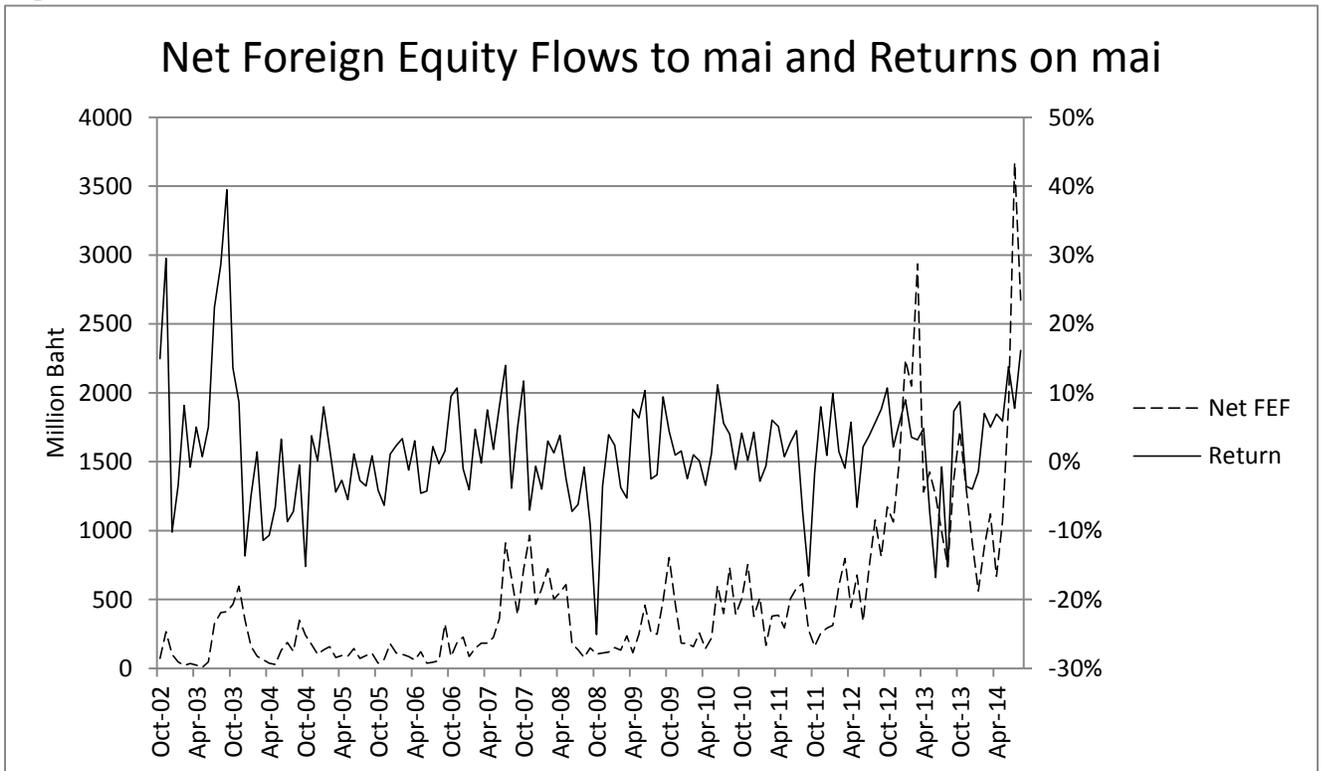


Figure 2



Data source: The Stockton Exchange of Thailand
(http://www.set.or.th/en/market/market_statistics.html#monthly)

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