ผลกระทบของการเปลี่ยนแปลงนโยบายการเงินของประเทศสหรัฐอเมริกา ต่อมูลค่าการซื้อขายหลักทรัพย์ของนักลงทุนต่างชาติ กรณีศึกษาตลาดหลักทรัพย์แห่งประเทศไทย

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บทคัดย่อ

เนื่องจากการเปลี่ยนแปลงนโยบายการเงินของประเทศสหรัฐอเมริกานั้นส่งผลกระทบไปยังตลาดการเงินต่างๆทั่วโลก และเป็นหัวข้ออภิปรายหนึ่งที่น่าสนใจมากทั้งในหมู่นักวิชาการและกลุ่มผู้กำหนดนโยบายการเงินระหว่างประเทศ การวิจัยครั้งนี้มีจึงวัตถุประสงค์เพื่อศึกษาผลกระทบของการเปลี่ยนแปลงนโยบายการเงินของประเทศสหรัฐอเมริกาต่อการเปลี่ยนแปลงมูลค่าการซื้อขายหลักทรัพย์ของนักลงทุนต่างชาติในตลาดหลักทรัพย์แห่งประเทศไทยในช่วงระยะเวลาระหว่างปี 2538 ถึงปี 2560 โดยใช้การวิเคราะห์การถดถอยพหุคูณ (Multiple Linear Regression) ในการวิเคราะห์ข้อมูล ผลการวิจัยพบว่าการเปลี่ยนแปลงนโยบายการเงินของประเทศสหรัฐอเมริกาทั้งที่มีการคาดการณ์และไม่คาดการณ์ล่วงหน้า ไม่ได้ส่งผลอย่างมีนัยสำคัญต่อการเปลี่ยนแปลงมูลค่าการซื้อขายหลักทรัพย์ของนักลงทุนต่างชาติในตลาดหลักทรัพย์แห่งประเทศไทย แต่การเปลี่ยนแปลงของอัตราแลกเปลี่ยนเงินระหว่างเงินบาทกับดอลล่าร์สหรัฐ ซึ่งเป็นตัวแปรควบคุมในการศึกษาครั้งนี้ ส่งผลอย่างมีนัยสำคัญต่อการเปลี่ยนแปลงมูลค่าการซื้อขายหลักทรัพย์ของนักลงทุนต่างชาติในตลาดหลักทรัพย์แห่งประเทศไทย การศึกษาครั้งนี้นอกจากจะมีส่วนช่วยเติมเต็มผลการวิจัยก่อนหน้าที่เกี่ยวข้องกับผลกระทบของนโยบายการเงินของประเทศสหรัฐอเมริกาแล้ว ยังสามารถนำไปปรับใช้เป็นแนวทางในการวางแผนควบคุมการเคลื่อนย้ายของเงินทุนระหว่างประเทศและการบริหารความเสี่ยง เพื่อส่งเสริมผลักดันให้ตลาดการเงินเติบโตต่อไปอย่างยั่งยืนได้อีกด้วย

คำสำคัญ : ผลกระทบของนโยบายการเงินของประเทศสหรัฐอเมริกา ตลาดเกิดใหม่ การลงทุนระหว่างประเทศ การเคลื่อนย้ายเงินทุนระหว่างประเทศ อัตราดอกเบี้ยนโยบาย

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THE IMPACT OF U.S. MONETARY POLICY ON FOREIGN TRADING VOLUME: THE CASE OF THE STOCK EXCHANGE OF THAILAND

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Abstract

The impact of U.S. Monetary Policy on the international financial markets has been one of the most debated topics among academics and policy makers. This present study examines the effect of the Federal Reserve's action monetary policy on the foreign trading volume of the Stock Exchange of Thailand for the period between 1995 and 2017. An empirical analysis of multiple linear regression suggests that both unanticipated and anticipated changes in U.S. federal funds rate do not affect trading volume of the foreign investors on the Stock Exchange of Thailand. However, the Thai baht-U.S. dollar exchange rate which is one of the control variables in this study has significant relationship with foreign trading volume of the Stock Exchange of Thailand. The findings offer guideline for capital control and risk management required to promote sustainable economic growth and prosperity

Keywords : Impact of U.S. monetary policy, emerging markets, foreign investment, capital flows, federal funds

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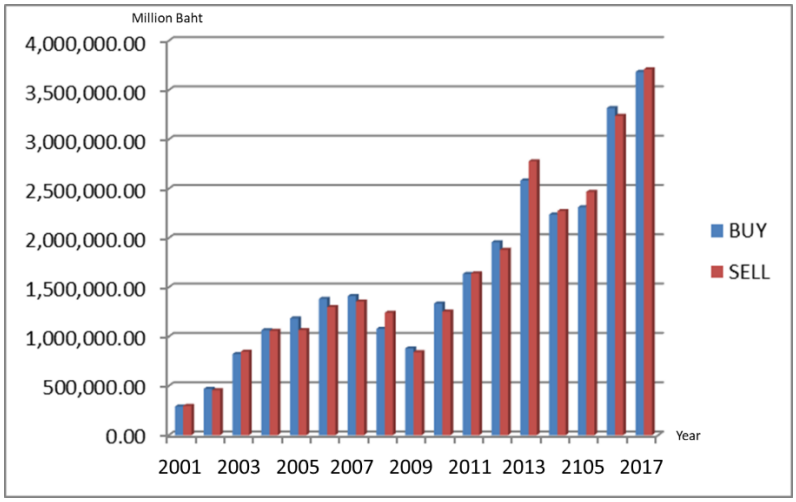
Introduction

In 1975, the Stock Exchange of Thailand (SET) started its first official trading as the first capital market in Thailand, attracting both domestic and foreign investment. It has played vital roles in supporting capital allocation and economic development as a part of National Economic and Social Development Plan. SET has been one of the most attractive emerging equity markets offering desirable growth and diversification opportunities for investors from developed economies.

Figure 1 illustrates the foreign trading volume in the Stock Exchange of Thailand between 2001 and 2017. Foreign activity in SET has been tremendous in the last decades, consistent with an increase in overall foreign investment in Asian region. These capital flows reflected Thailand's recovery from Asian economic crisis and the end of fixed exchange rate regime in Thailand. Like other regional markets, SET has largely been influenced by global factors. During the global financial crisis, foreign capital flows out of the countries as investors are affected by the financial turmoil.

Figure 1 Foreign Trading Volume in SET During 2001-2017



Source: The Stock Exchange of Thailand (2017)

Until recently, U.S. economy has been vigorous. The international dimensions of the U.S. Federal Reserve have been controversial. The changes in Fed's policy were found to affect foreign economies especially in an integrated world where financial markets are closely related (Byrne & Fiess, 2011; Hausman & Wongswan, 2011). The impact is transmitted through demand and credit channels (Ammer, Vega, & Wongswan, 2010). The demand or conventional channel of policy transmission affects market demand directly via interest rates. A rise in interest rates, lowers demand for consumption and investment, and lowers real GDP. An expansion regime increases spending and consumption, promoting investment to raise production (Bernanke & Gurtler, 1995; 2000; Cook & Hahn, 1988; Edelberg & Marshall, 1996; Ehrmann & Fratzscher, 2005; Taylor, 1995). The credit channel of policy transmission refers to a reaction of credit supply provided by the financial institutions to the changes in monetary policy (Ammer et al., 2010; Mishkin, 2001). For example, under tightening credit period, credit given to borrowers in the contracting business environment are squeezed. Worsen credit market condition raises interest rates and decreases the present value of firms' collateralized assets. Thus, firms with heavy external financing might experience stronger impact of monetary policy during contracted economy. (Bernanke & Blinder, 1992; Bernanke & Kuttner, 2005; Kashyap, Stein, & Wilcox, 1993).

In an international context, the transmission mechanism of monetary policy plays vital roles in interconnected markets. Canova (2005), Wongswan (2006), and Wongswan (2009) found the impact of the U.S. Federal Reserve's action on foreign interest rates and equity markets. The notion supports Kim (2001) who discussed interest rates as critical vehicles for international transmission of monetary policy. An international response of monetary policy depends on the degree of interdependent among countries. The interest rates of currencies pegged to U.S. dollar are more sensitive to FOMC policy compared to those with floating regime (Ammer, et al., 2010). In addition to interest rates, the country's monetary policy affects international asset prices through portfolio channel. For instance, U.S. investors who suffer a negative wealth shock resulted from the FOMC announcement might liquidate their international portfolios without any common fundamental factors are associated (Fiordelici, Galloppo, & Ricci, 2014; Kodres & Pritsker, 2002; Kyle & Xiong, 2001; Ricci, 2015).

Tan and Shrestha (1998) studied the response of equity market in Thailand, Malaysia, Singapore, Hong Kong, South Korea, and Japan to the changes in U.S. monetary policy. These Asian markets exhibited significant reaction to FOMC announcement, but the direction and degree of response vary across countries. Wongswan (2009) used high-frequency data and a classification of target and path surprises to examine an international response of global stock markets. The regression analysis showed that equity markets in the selected regions response differently to the announcement of FOMC depending on financial linkages between the countries and the U.S. The results also suggested an indirect evidence that the discount rates component of foreign equities is influenced by the FOMC announcement and the U.S. monetary policy is a risk factors in international financial market. Ammer et al. (2010) examined global transmission of U.S. monetary policy using the intraday firm-level stock prices across the world. Their finding supported the intuition of policy transmission through demand channel, credit channel, and local interest rate channel. Berument and Ceylan (2010) examined the response of global interest rates and their results suggested that an unanticipated change in U.S. federal funds target rates have greater effects on foreign interest rates than an unanticipated change. The effects seem stronger in advanced economies than in developing countries. The effect of Fed's action is less for assets with longer time to maturity. Hausman and Wongswan (2011) contributed to the study by analyzing the response of stock indices, exchange rates and interest rates in 49 countries to the announcement of FOMC. They confirmed various response among diverse classes of assets to the changes in U.S. monetary policy. An integration with U.S. economy and an exchange rate regime employed by the country are determining factors of the reaction. The paper contributes to (Ammer, et al., 2010) in showing larger impact on Federal Reserve's announcement on the currencies pegged to U.S. Dollar.

An impact of the Fed's policy on global real estate markets were studied in Xu and Yang (2011). They summarized inverse response to the decrease in target federal funds rates and direction of the policy. However, these global responses are asymmetric. The impact is strong when there are unexpected cuts, when the surprises are large, and when the policy is loosening. Chortareas and Noikokyris (2017) contributed to the prior literature by considering how the local monetary policy determines the international transmission of monetary policy. They demonstrated the roles of financial market openness and policy synchronization in mitigating the strength of transmission in of 35 global financial markets. The impact of U.S. monetary policy is less pronounced when the policy rates of a country aligned with U.S. target rates.

Though there is a large number of researches on the international effects of the FOMC's policy announcement, most of them study the impact of the announcement on interest rates, stock index, or asset prices. Only a handful researches have an objective to evaluate the effect of the announcement on foreign capital flows and investment. However, it is nontrivial to justify that the foreign capital flow is one contributing factors in the growth and stability of a country's financial market (Agbloyor, Abor, & Yawson,

2014; Choong, Baharumshahb, Yusop, & Habibullah, 2010). Excessive capital flows can dominate local financial systems by contributing to an overwhelming credit supply and leads to economic bubbles. Large capital flows, in addition, can lead to currency appreciation hurting local export and productivity (Ahmed & Zlate, 2014). Byrne and Fiess (2011) discussed U.S. interest rates as significant determinant of emerging markets' capital flows. Interest rate gap between advanced and emerging markets can attract investment capital through risk-taking channel where monetary policy affects risk appetite among market participants (Bruno & Shin, 2015; Dahlhaus & Vasishtha, 2014). The studies of Burns, Kida, Lim, Mohapatra, and Stocker (2014), Eichengreen and Gupta (2015), Punzi and Chantapacdepong (2017), Rey (2015), and Ricci & Shi (2016) offered evidence of U.S. monetary policy influence on emerging market capital flows. Though these literatures examined the issues systematically, Koepke (2018) and Dahlhaus and Vasishtha (2014) added to the debates by considering the expectation of the future monetary policies in the study.

There are researches regarding how Thai financial market respond to the U.S. monetary policy. Their focuses were the response of interest rates and stock market returns and interest rates. The effects on foreign capital investment are less controversial. Surarassamee (2009) examine the effects of FOMC announcement on Thai interbank-overnight rates, SET index, bond rates of every maturity, and exchange rates. The strong responses of Thai financial market were found for unanticipated target rate changes while only little effects were reported for the anticipated announcement. Wadhanapatee, Bialowas, and Phuangsup (2012) studied the response of Thai financial market to the changes in U.S. federal funds target rates to evaluate market efficiency of the Stock Exchange of Thailand (SET). They concluded no significant influence of an anticipated change in federal funds target rates on the SET index, but the security prices are inversely related to an unanticipated target rate change.

The studies on foreign capital flows in Thailand were found to concentrate on exchange rates, interest rate differential, returns on stock markets, and asset prices (Chuanchai, 1997; Jiwapibantanakit, 2003; Mingkhwanrungrueng, 1997; Pumruang, 2005; Srinual, 2010; Tangchetcharung, 2010; Teerachotetanakul, 2010). Mingkhwanrungrueng (1997) examined factors affecting foreign portfolio investment mobility in Thailand during 1992-1996. It was concluded that a Thai baht-U.S. dollar exchange rates, spread between domestic and international interest rates, inflation rates, average market dividend yield, Thai and foreign stock indices as well as inter-bank rates are influencing factors determining the foreign portfolio investment mobility in Thailand. The study was supported by Pumruang (2005) where the interest rate spread, exchange rates and returns on SET index were found to influence foreign investment in the Stock Exchange of Thailand. The findings of Srinual (2010), however, offered contradicting results to the prior studies. The regression analysis showed that only real exchange rates had significant influence on the private foreign investment capital flows in Thailand. Local index returns, and the local bond rates were not critical factors in determining the capital flows. The study of Teerachotetanakul (2010) expanded the scope of the prior studies by including the percentage changes in Dow Jones index as additional influencing factors and the analysis focused on foreign trading volume as a dependent variable. However, only percentage changes in the SET index was found to affect the foreign trading volume in the SET.

Among those previous researches, an effect of U.S. monetary policy on foreign trading activity in SET was not much debated. But since the foreign investment and capital flows are crucial economic variables contributing to stability and growth of an economy (Agbloyor, et al., 2014; Choong, et al, 2010), the study of how those policies affect foreign investment activity in Thailand is unneglectable.

Objective of the study

This present study has an objective to analyze the impact of the U.S. monetary policy on the changes in foreign trading volume of the Stock Exchange of Thailand through an announcement of target rates made by the Federal Open Market Committee (FOMC). It contributes to the previous studies by considering the impact of U.S. monetary policy specifically on the foreign trading volume factor. The study offers insight for risk control and foreign investment management. As the massive foreign capital has flown to exploit untapped potential in Asian countries including Thailand, their movement affect market stability. An understanding of driving forces behind those movement can greatly assist policy makers in promoting sustainable economic growth and prosperity.

Methodology

This present research follows Bernanke and Kuttner (2005), Cook and Hahn (1988), Hausman and Wongswan (2011), Wadhanapatee et al. (2012), Xu and Yang (2011) in using regression estimation to analyze the impact of U.S. monetary policy. Hence, the effect of the U.S. federal funds target rates announcement on the trading volume of foreign investors of the Stock Exchange of Thailand were examined. The sample includes 57 changes in federal funds target rates from 1995 to 2017. According to the studies by Ammer et al. (2010), Berument and Ceylan (2010), Kuttner (2001), Lee (2006), Surarassamee (2009), and Wadhanapatee et al. (2012), the changes in U.S. monetary policy can be classified as anticipated and unanticipated changes and the market reaction to the changes are difficult to measure. The researchers can rely on a vector autoregressive (VAR) model to measure market expectation of Fed Fund's announcement (Edelberg & Marshall, 1996; Evan & Marshall, 1998; Mehra, 1996) or use futures data to capture the expectation from the market (Lee, 2006). According to Krueger and Kuttner (1996) and Kuttner (2001), the federal funds futures price is a reliable forecast of Federal Funds target rates for several reasons. First, the data are independent of model selection. Further, there is no out-of-date data problem when data are used for the forecast and, lastly, since the federal funds futures application does not bring in the generated-regressor problems which are usually found under model-based approach, using federal funds futures contract is considered the most efficient approach to distinguish between an anticipated and an unanticipated changes in target rates (Gurkaynak, Sack, & Swanson, 2006). Following Ammer et al. (2010), Kuttner (2001), Lee (2006), Surarassamee (2009) and Wadhanapatee et al. (2012), we derived the anticipated and unanticipated components of the Federal Funds target announcement from the difference between futures prices on the day of an FOMC announcement and the day before with an assumption that when the futures contract matures the futures price and the spot price must be the same (Krueger & Kuttner, 1996). An unanticipated component of the policy announcement is calculated as a change in price of the spot-month federal funds futures on the day of the announcement.

$$\Delta r_t^u = \frac{m_s}{m_s - t}\left(f_{n,t}^0 - f_{n,t-1}^0\right) \quad (1)$$

Setting day t as the date of the announcement made by FOMC, Δr_t^u is the unanticipated changed in the target rate, $f_{n,t}^0$ is the spot-month futures rates on day t of month n and $f_{n,t-1}^0$ is the spot-month futures rates on the day before announcement. Since the federal funds futures contract is an average of the particular month's effective overnight rates, it is not a closing price on any specific day. Therefore, the most efficient way to estimate an unanticipated change in the target rate is to scale up number of days affected by the change. The difference between federal funds futures prices on the announcement date and the date prior to the announcement is then multiplied by $\frac{m_s}{m_s - t}$ where m_s is the number of days in the

month of the announcement and t (the announcement date) is counted as number of days from the first day of the relevant month to the date of the announcement (Ammer et al., 2010; Kuttner, 2001; Lee, 2006; Surarassamee, 2009; Wadhanapatee et al., 2012). Then, an anticipated or expected component of the change in federal funds target rate Δr_t^e, is calculated from the difference between an actual change in target rate Δr_t and an unanticipated change calculated from equation (1) or Δr_t^u.

$$\Delta r_t^e = \Delta r_t - \Delta r_t^u \quad (2)$$

From the earlier estimation, we derive two independent variables for the regression analysis, an anticipated and unanticipated changes in federal funds target rates. Because this study analyzes an effect of U.S. monetary policy announcement on the foreign trading volume of the Stock Exchange of Thailand which is in the different time zone, the changes in foreign trading volume in SET on the day after federal fund target rates announcement ΔV_{t+1} are employed as a dependent variable.

In addition to the dependent and independent variables described earlier, this study includes two control variables in the empirical models, namely, the changes in Thai baht-U.S. Dollar exchange rates (ΔEXC_{t+1}) and the changes in SET Index (ΔSET_{t+1}) as the 2 variables are suggested by earlier literatures to have relation with the changes in foreign trading (Chuanchai, 1997; Jiwapibantanakit, 2003; Mingkhwanrungrueng, 1997). Thus, the model equation can be described as

$$\Delta V_{t+1} = \alpha + \beta_1 \Delta r_t^u + \beta_2 \Delta r_t^e + \beta_3 \Delta EXC_{t+1} + \beta_4 \Delta SET_{t+1} \quad (3)$$

Where,

ΔV_{t+1} = percentage changes in foreign trading volume of the Stock Exchange of Thailand on the day after FOMC announcement

Δr_t^u = percentage of unexpected changes in federal funds target rate

Δr_t^e = percentage of expected changes in federal funds target rate

ΔEXC_{t+1} = percentage changes in Thai baht-U.S. Dollar exchange rate on the day after FOMC announcement

ΔSET_{t+1} = percentage changes in SET index on the day after FOMC announcement

The data on all variables are gathered for each of the corresponding announcement of the FOMC. They include 57 samples for 57 changes in federal fund's target rate from 1995 to 2017. All data were retrieved from Bloomberg and all changes are transformed into percentage term. Prior to the regression analysis, data on each variable were examined for their stationarity. Augmented Dickey-Fuller (ADF) Unit Root tests were conducted to verify the stationarity of all data series as the non-stationarity of data is the critical requirement for the Ordinary Least Square estimation (OLS). Then, the empirical regression model was estimated and examined for statistical errors regarding model specification.

Results and Discussion

As the unit root test confirmed stationary property of all data series, it was possible to estimate regression equation regarding the impact of changes in U.S. federal funds target rates on the changes in foreign trading volume of the Stock Exchange of Thailand. Table 1 illustrates the result from regression estimation. The findings demonstrate that both anticipated and unanticipated components of the U.S. monetary policy announcement do not have significant influence on the changes in foreign trading volume

of the Stock Exchange of Thailand at 95% confidence level. However, the changes in Thai Baht-U.S. Dollar exchange rate, one of the controlled variables, demonstrated significant influence on the changes in foreign trading volume. A depreciation of Thai Baht against U.S. Dollar leads to an increase in foreign trading volume and vice versa. Finally, the change in SET index does not affect the trading volume of foreign investors. The estimation is without auto- and serial correlation problems. It does not contain heteroskedasticity and there is no correlation among variables.

Table 1 Regression Estimation

Dependent Variable: CHG_BUY_SELL
Method: Least Squares
Date: 03/09/18 Time: 21:12
Sample: 5/04/1995 9/15/2017
Included observations: 57

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EXPECTED	7.057585	5.284243	1.335591	0.1875
UNEXPECTED	23.74223	14.25211	1.665875	0.1018
CHG_EXC_T_1	1993.635	176.4609	11.29788	0.0000*
CHG_SET_T_1	-5.301707	23.92055	-0.221638	0.8255
C	-2.921924	1.718376	-1.700399	0.0950

R-squared	0.714312	Mean dependent var	-0.177313
Adjusted R-squared	0.692336	S.D. dependent var	21.97489
S.E. of regression	12.18892	Akaike info criterion	7.922563
Sum squared resid	7725.628	Schwarz criterion	8.101778
Log likelihood	-220.7930	Hannan-Quinn criter.	7.992212
F-statistic	32.50416	Durbin-Watson stat	2.250571
Prob(F-statistic)	0.000000		

Note 1: CHG_BUY_SELL = percentage changes in foreign trading volume of the Stock Exchange of Thailand on the day after FOMC announcement, EXPECTED = percentage of expected changes in Fed funds rate, UNEXPECTED = percentage of unexpected changes in Fed funds rate, CHG_EXC_T_1 = percentage changes in Thai Baht-U.S. Dollar exchange rate on the day after FOMC announcement, CHG_SET_T_1 = percentage changes in SET index on the day after FOMC announcement
Note 2: * denote level of confidence at 95%.

This finding seems partially contradictory to previous literatures on the international transmission of U.S. monetary policy (Ammer, et al., 2010; Berument & Ceylan, 2010; Bruno & Shin, 2015; Burns et al., 2014; Byrne & Fiess, 2011; Dahlhaus & Vasishtha, 2014; Eichengreen & Gupta, 2015; Hausmann & Wongswan, 2011; Rey, 2015; Ricci & Shi, 2016; Wongswan, 2009). Though some of the earlier researches have reported the significant impact of U.S. monetary policy on global markets, the variables employed in those studies vary. Hausmann and Wongswan (2011), for instance, examined the impact on interest rates and exchange rates. Dahhl and Vasishtha (2014) based their study on the net portfolio flows in 23 emerging markets while Bruno and Shin (2015) examined the impact specifically on cross-border banking sector flows. This study specifically examined the impact of the FOMC announcement on changes in foreign trading volume. The significant influence of Thai Baht-Dollar exchange rate and the foreign trading volume reported in this study offers contributing supports for prior studies which demonstrated empirical evidences that the Thai Baht-Dollar exchange rate is one of the critical factors in determining capital flows and foreign investment in Thailand (Jiwapibantanakit 2003; Pumruang, 2005; Srinual, 2010; Teerachotetanakul, 2010). In the present study, a depreciation of Thai Baht against U.S. dollar leads to an increase in foreign trading while an appreciation of Thai Baht decreases foreign trading volume. The relationship might be explained by the currency speculation which was discussed in earlier studies.

Conclusion and Recommendation

This study examined the impact of U.S. monetary policy on the trading volume of foreign investors of the Stock Exchange of Thailand. There have been prior researches regarding the international effect of U.S. monetary policy on international economy and there are papers discussing the response of Thai financial market to the announcement of FOMC in terms of stock market returns, exchange rates, and interest rates. Thus, it is worth taking an analysis specifically of the effects of U.S. policy announcement on foreign investment activity since the capital flow contributes to growth and stability of a country's financial market. The foreign trading volume in the Stock Exchange of Thailand was analyzed using regression estimation based on expected and unexpected changes in federal funds target rates. The exchange rate between Thai Baht and U.S. Dollar and the SET index were included in the model as controlled variables. Empirical results suggested that the expected and unexpected changes in the federal funds target rates do not affect the foreign trading volume in the Stock Exchange of Thailand. However, the Thai Baht-U.S. Dollar exchange rate plays role in the trading activity of foreign investors.

The findings imply policy implication in capital flows management and risk control. The results presented here demonstrate a vital role of exchange rate on foreign trading activities. If the foreign capital flows in to the country are for speculative purpose, the risks associated with the activity must be taken with caution. Excessive speculative funds might overheat the financial market and deteriorate economic stability. The responsive market tightening policy to raise in interest rates might further stimulate market a

ctivities. On the other hand, a sudden drop in foreign trading or a large foreign capital outflows when Thai Baht appreciates might pause financial activities and weaken Thai baht leaving the economy sluggish.

As a guideline to future research, even though this study does not confirm the impact of U.S. monetary policy on the foreign trading volume in the Stock Exchange of Thailand, it should be noted that there are several measures of foreign investment activities and capital flows. These measures should be considered to further evaluate the impact of foreign country's monetary policy to contribute towards both policy and economic implication which are necessary for financial market and economic development.

Reference

Agbloyor, E. K., Abor, J. Y., Adjasi, C. K., & Yawson, A. (2014). Private capital flows and economic growth in Africa: the role of domestic financial markets. **Journal of International Financial Markets**, Institutions and Money, 30, 137-152. https://doi.org/10.1016/j.intfin.2014.02.003

Ahmed, S., & Zlate, A. (2014). Capital flows to emerging market economies: a brave new world. **Journal of International Money and Finance**, 48(B), 221-248. https://doi.org/10.1016/j.jimonfin.2014.05.015

Ammer, J., Vega, C., & Wongswan, J. (2010). International transmission of U.S. monetary policy shocks: evidence from stock prices. **Journal of Money**, Credit and Banking, 42(S1), 179-198. https://doi.org/10.1111/j.1538-4616.2010.00333.x

Bernanke, B. S., & Blinder, A. S. (1992). **The Federal funds rate and the channels of monetary transmission**. American Economic Review, 82(4), 901-921. Retrieved from https://ideas.repec.org/a/aea/aecrev/v82y1992i4p901-21.html

Bernanke, B. S., & Gertler, M. (1995). Inside the black box: the credit channel of monetary policy transmission. **Journal of Economic Perspectives,** 9(4), 27-48. https://doi.org/10.1257/jep.9.4.27

Bernanke, B. S., & Gertler, M. (2000). **Monetary Policy and Asset Price Volatility**. NBER Working Papers No. 7559. https://doi.org/10.3386/w7559

Bernanke, B. S., & Kuttner, N. K. (2005). What explains the stock market's reaction to Federal Reserve policy? **The Journal of Finance**, 60(3),1221-1257. https://doi.org/10.1111/j.1540-6261.2005.00760.x

Berument, H. & Ceylan, N. B. (2010). The effects of anticipated and unanticipated Federal funds target rate changes on domestic interest rates: international evidence. **International Review of Applied Financial Issues and Economics**, 2, 328-340. Retrieved from https://www.ceeol.com/search/article-detail?id=199318

Bruno, V., & Shin, H. S. (2015). Capital flows and the risk-taking channel of monetary policy. **Journal of Monetary Economics**, 71, 119-132. https://doi.org/10.1016/j.jmoneco.2014.11.011

Burns, A., Kida, M., Lim, J. J., Mohapatra, S., & Stocker, M. (2014). **Unconventional Monetary Policy Normalization in High-Income Countries: Implications for Emerging Market Capital Flows and Crisis Risks**. Policy Research Working Paper. https://doi.org/10.1596/1813-9450-6830

Byrne, P. J., & Fiess, N. (2011). **International Capital Flows to Emerging and Developing Countries: National and Global Determinants**. SIRE Discussion Papers, Scottish Institute for Research in Economics, University of Glasgow. Retrieved from https://core.ac.uk/download/pdf/6659892.pdf

Canova, F. (2005). The transmission of US shocks to Latin America. **Journal of Applied Econometrics, 20(2), 229-251. https://doi.org/10.1002/jae.837**

Choong, C., Baharumshahb, A. C., Yusop, Z. & Habibullah, M. S. (2010). Private capital flows, stock market and economic growth in developed and developing countries: a comparative analysis. **Japan and the World Economy**, 22(2), 107-117. https://doi.org/10.1016/j.japwor.2009.07.001

Chortareas, G., & Noikokyris, E. (2017). Federal reserve's policy, global equity markets, and the local monetary policy stance. **Journal of Banking & Finance**, 77(C), 317-327. https://doi.org/10.1016/j.jbankfin.2016.04.026

Chuanchai, N. (1997). **Factors Affecting the Foreign Capital Flows in the Stock Exchange Market of Thailand**. Unpublished master's thesis, Kasetsart University, Faculty of Economics. Retrieved from http://www.thaithesis.org/detail.php?id=27492

Cook, T., & Hahn, T. (1988). The information content of discount rate announcements and their effect on market interest rates. **Journal of Money, Credit and Banking,** 20(2), 167-180. https://doi.org/10.2307/1992108

Dahlhaus, T., & Vasishtha, G. (2014). **The Impact of U.S. Monetary Policy Normalization on Capital Flows to Emerging-Market Economies**. Bank of Canada Working Paper, Retrieved from http://hdl.handle.net/10419/123742

Edelberg, W., & Marshall, D. (1996). Monetary policy shocks and long-term interest rates. **Economic Perspectives-Federal Reserve Bank of Chicago,** 20, 2-28. Retrieved from file:///C:/Users/Design/Downloads/epmar96a-pdf%20(1).pdf

Ehrmann, M., & Fratzscher, M. (2005). Exchange rates and fundamentals: new evidence from real-time data. **Journal of International Money and Finance,** 24(2), 317-341. https://doi.org/10.1016/j.jimonfin.2004.12.010

Eichengreen, B., & Gupta , P. (2015). Tapering talk: The impact of expectations of reduced Federal Reserve security purchases on emerging markets. **Emerging Markets Review**, 25(C), 1-15. https://doi.org/10.1016/j.ememar.2015.07.002

Evans, C. L., & Marshall, D. A. (1998). Monetary policy and the term structure of nominal interest rates: evidence and theory. **Carnegie-Rochester Conference Series on Public Policy**, 49(1), 53-111. https://doi.org/10.1016/S0167-2231(99)00004-4

Fiordelisi, F., Galloppo, G., & Ricci, O. (2014). The effect of monetary policy interventions on interbank markets, equity indices and G-SIFIs during financial crisis. **Journal of Financial Stability**, 11, 49-61. https://doi.org/10.1016/j.jfs.2013.12.002

Gurkaynak, R. S., Sack, B. P., & Swanson, E. T. (2004). **Do Actions Speak Louder Than Words? The Response of Asset Prices to Monetary Policy Actions and Statements.** FEDS Working Paper No. 2004-66. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=633281

Hausman, J., & Wongswan, J. (2011) Global asset prices and FOMC announcements. **Journal of International Money and Finance,** 30(3), 547-571. https://doi.org/10.1016/j.jimonfin.2011.01.008

Jiwapibantanakit, J. (2003). **Factor Affecting on Foreign Capital Movement in The Stock Exchange of Thailand**. Unpublished master's thesis, Kasetsart University, Faculty of Economics. Retrieved from https://www.regis.ku.ac.th/cpcmns/kugradNew/mis/gr_student.php?student_id=42671735

Kashyap, K. A., Stein, C. J., & Wilcox, W. D. (1996). Monetary policy and credit conditions: evidence from the composition of external finance: reply. **The American Economic Review**, 86(1), 310-314. Retrieved from http://www.jstor.org/stable/2118272

Kim, S. (2001). International transmission of U.S. monetary policy shocks: evidence from VAR's. **Journal of Monetary Economics**. 48(2), 339-372. https://doi.org/10.1016/S0304-3932(01)00080-0

Kodres, L. E. & Pritsker, M. (2002). A rational expectations model of financial contagion. **The Journal of Finance**, 57(2), 769-799. https://doi.org/10.1111/1540-6261.00441

Koepke, R. (2018). Fed Policy Expectations and Portfolio Flows to Emerging Markets. **Journal of International Financial Markets, Institutions and Money,** 55, 170-194**.** https://doi.org/10.1016/j.intfin.2018.03.003

Krueger, T. J., & Kuttner, N. K. (1996). The Fed funds futures rate as a predictor of Federal Reserve policy. **Journal of Futures Markets**, 16(8), 865-879. https://doi.org/10.1002/(SICI)1096-9934(199612)16:8<865::AID-FUT2>3.0.CO;2-K

Kuttner, K. (2001). Monetary policy surprises and interest rates: evidence from the Fed funds futures market. **Journal of Monetary Economics**, 47(3), 523-544. https://doi.org/10.1016/S0304-3932(01)00055-1

Kyle, S. A., & Xiong, W. (2001). Contagion as a wealth effect. **The Journal of Finance**, 56(4), 1401-1440. https://doi.org/10.1111/0022-1082.00373

Lee, J. (2006). The impact of federal funds target changes on interest rate volatility. **International Review of Economics & Finance**, 15(2). 241-259. https://doi.org/10.1016/j.iref.2004.11.005

Mehra, Y. P. (1996). Monetary policy and long-term interest rates. **FRB Richmond Economic Quarterly**, 82(3). 27-49. Retrieved from https://ssrn.com/abstract=2125935

Mingkhwanrungrueng, W. (1997). **Factor Affecting Foreign Portfolio Investment Mobility in Thailand**. Unpublished master's thesis, Kasetsart University, Faculty of Economics. Retrieved from https://www.regis.ku.ac.th/cpcmns/kugradNew/mis/gr_student.php?student_id=37675840

Mishkin, F. S. (2001). **Monetary Policy Strategy: Lessons from the Crisis**. NBER Working Papers No. 16755, Retrieved from http://www.nber.org/papers/w16755

Pumruang, S. (2005). **The Study of Factors Affecting on Foreign Portfolio Investment in The Stock Exchange of Thailand.** Unpublished master's thesis, Srinakharinwirot University, Faculty of Economics. Retrieved from http://newtdc.thailis.or.th/result.aspx?Ntk=subject_facet1%7Csubject_facet&Ntt=%u0e01%u0e32%u0e23%u0e25%u0e07%u0e17%u0e38%u0e19%7C%u0e15%u0e25%u0e32%u0e14%u0e2b%u0e25%u0e31%u0e01%u0e17%u0e23%u0e31%u0e1e%u0e22%u0e4c&Nto=

Punzi, M. T. & Chantapacdepong, P. (2017). **Spillover Effects of Unconventional Monetary Policy in Asia and the Pacific**. ADBI Working Paper 630. http://dx.doi.org/10.2139/ssrn.2894756

Rey, H. (2015). **Dilemma not Trilemma: The Global Financial Cycle and Monetary Policy Independence**. NBER Working Paper No. 21162. Retrieved from http://www.nber.org/papers/w21162

Ricci, L. A., & Shi, W. (2016). **Trilemma or Dilemma: Inspecting the Heterogeneous Response of Local Currency Interest Rates to Foreign Rates.** IMF Working Paper No. WP/16/75, Retrieved from https://www.imf.org/external/pubs/ft/wp/2016/wp1675.pdf

Ricci, O. (2015). The impact of monetary policy announcements on the stock price of large European banks during the financial crisis. **Journal of Banking & Finance**, 52, 245-255. https://doi.org/10.1016/j.jbankfin.2014.07.001

Srinual, T. (2010). **Factors affecting the foreign private capital flows**. Unpublished master's thesis, Bangkok University, Faculty of Business Administration. http://dspace.bu.ac.th/bitstream/123456789/392/1/tassanee_srin.pdf

Stock Exchange of Thailand. (2017). **Trading Volume Report** [data file]. Retrieved from http//www.setsmart.com

Surarassamee, P. (2009). **The response of Thai financial markets to Target Fed Funds Rates Announcement.** Unpublished master's thesis, Chulalongkorn University, Faculty of Economics. http://cuir.car.chula.ac.th/handle/123456789/17327

Tan, K. & Shrestha, K. (1998). **The Impact of Fed Funds Rate Target Changes on the Asian Stock Market – Empirical Evidence.** Center for Research in Financial Services Working Paper N0. 96-05. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.17.3608&rep=rep1&type=pdf

Tangchetcharung, J. (2010), **Factors affecting foreign investment flow to Thai equity market, the Stock Exchange of Thailand (SET).** Unpublished master's thesis, Chulalongkorn University, Faculty of Economics. Retrieved from http://beyond.library.tu.ac.th/cdm/singleitem/collection/thesis/id/3926/rec/5

Taylor, J. B. (1995). The monetary transmission mechanism: an empirical framework. **Journal of Economic Perspectives**, 9(4), 11-26. https://doi.org/10.1257/jep.9.4.11

Teerachotetanakul, S. (2010). **Factors affecting foreign net worth of foreign investors in the Stock Exchange of Thailand**. Unpublished master's thesis, University of Thai Chamber of Commerce, Faculty of Business Administration. Retrieved from http://eprints.utcc.ac.th/2029/2/2029fulltext.pdf

Wadhanapatee, S., Bialowas, P., & Phuangsup, W. (2012). Tests of market efficiency in the Stock Exchange of Thailand in the perspective of US monetary policy announcements. **Suddhiparitad Journal**, 79, 109 –130.

Wongswan, J. (2006). Transmission of information across international equity markets. **The Review of Financial Studies**, 19(4), 1157–1189. https://doi.org/10.1093/rfs/hhj033

Wongswan, J. (2009). The response of global equity indexes to U.S. monetary policy announcements. **Journal of International Money and Finance**, 28(2), 344-365. https://doi.org/10.1016/j.jimonfin.2008.03.003

Xu, P. & Yang, J. (2011). U.S. monetary policy surprises and international securitized real estate markets. **The Journal of Real Estate Finance and Economic**, 43(4), 459–490. https://doi.org/10.1007/s11146-009-9215-x