

THE EFFECT OF FOREIGN INSTITUTIONAL INVESTORS BEFORE AND AFTER QFII ELIMINATION; EVIDENCE FROM TAIWAN.

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ABSTRACT

In this article, we found Taiwan was benefited from the elimination of QFII system and the destabilizing effects of institutional investors were diminished. Through daily data of 10 years, we concluded (1) Foreign investors do have stabilizing effect on stock market, except in the crisis period. (2) There is no strong evidence to prove foreign investors destabilized currency market. (3) Foreign investors had slight stronger impact than domestic investors on stock market during financial tsunami. (4) The role of foreign investors in Taiwan has changed after QFII elimination. The empirical results can provide policy implications to those countries that still impose regulations on foreign capital flows, and shed light on the issue that could a small, flatter, and export-oriented economy benefit from financial deregulation?

INSTRUCTION

Motivation

In last few decades, financial liberalization has become the mainstream in many emerging markets; Taiwan is one of the kinds. As one of the emerging countries, Taiwanese government also removed restrictions on international capital flows step by step, loosening limitations on the degree of foreigners' participation in Taiwan stock market. However, before Taiwanese government totally eliminated Qualified Foreign Institutional Investor system (QFII) and prepared to enjoy the benefit from liberalization, we have witnessed the damage of the powerful international capital flows in emerging countries, such as the Mexican peso crisis (1994/1995), the Asian financial crisis (1997/1998), Russia financial crisis (1998), and the Brazilian crisis (1999). Though Taiwan was not stroke heavily, we still suffered moderately¹. Radelet and Sachs (1998) concluded the core of Asian crisis were large-scale movements of international capital flow. That is, the behavior of international capital flows may offset some advantage of liberalization and internationalization. Hence, this study focused on the influence of foreign capital flows, we examined the effect caused by foreign investors in stock market and currency

¹ Taiwan performed well than other suffered countries in the Asian crisis period. **Exchange rate:** TWD dropped by 20%, Thai baht by 55%, South Korean won by 50%, and Malaysian ringgit by 42% and Indonesian rupiah by 70%. **Stock market:** Taiwan rose by 18.1%, South Korea and Southeast Asia dropped by 30% to 55%.

market. The objective of this paper is to find out the role of foreign investors before and after the elimination of QFII system in Taiwan, including the time of 2008 Financial Tsunami.

Background

International capital flows in and out from country to country, these cross-border transactions not only take advantage of high return markets but also reduce the risk of their portfolios by diversification. In the end of 2009, Taiwan stock market has accumulated about 1.768 trillion TWD capital inflows from foreign investors since the elimination of QFII system, 470 billion TWD net sales in 2008 were included. Foreign investors only held 15.06% of market capitalization of Taiwan stock market in 2000, but the number increased to 31.64% in 2009. And it's about 15 times greater than domestic institutions, which are 1.79% for investment trusts and 0.31% for security dealers respectively, suggesting the increasing importance of foreigners in Taiwan stock market.

As a shallow economy, Taiwan exhibited large fluctuation in stock and exchange market even in the non-crisis period (from 2000 to 2007). Foreign exchange rate (TWD/\$) ranged from 30.302 to 35.168 and stock index ranged from 3446.26 to 10202.2. As a free market, the capital flows from foreign investors in Taiwan are considered as one of the most influential powers. By 2001, foreigners owned 15.06% of the stock market capitalization and 5.89% of trading volume compared to 34.5% and 17.62% in 2007, respectively. Showing the evidence that foreign investors had demonstrated their forceful growth in Taiwan before the crisis. Besides, with the differences in magnitude between foreigners and locals, we'd like to know that if foreign investors' trading behavior such as feedback trading exacerbate stock and exchange market volatility.

Objectives

Taiwan is a good example of crisis effects when capital restrictions are removed. We can find out the difference between 1997 Asian crisis and 2008 Financial Tsunami, since the former happened in the time of capital control regulation on foreign investors and the latter did not. Past studies, due to lack of similar events after deregulation, couldn't provide evidence about free international flows stabilize or destabilize stock market and currency market during a catastrophe. In this study, we would like to find out the result after QFII elimination. Did the role of foreign investors in Taiwan changed after the financial liberalization? What role did foreign investors play during the crisis? Is the effect of foreign investors on stock and currency markets stabilizing or destabilizing before and after the elimination of QFII?

Our hypotheses and explanations are stated as follows: (1) foreign net purchases destabilize stock market, which means market returns are affected by foreign net purchases; (2) foreign net purchases destabilize currency market, that is, currency returns are affected by foreign net purchases. Further, we compare foreign institutional investors with domestic institutional investors no matter when QFII exist or not and during the 2008 financial tsunami; (3) foreign net purchases destabilize stock market and currency market more than domestic institutions. Then we examine foreigners' role in Taiwan; (4) the role of foreign investors changed or not after the elimination of QFII system, that is, has foreign investors demonstrate different trading behaviors after deregulation?

Why study Taiwan?

According to past literature review we read, the role of foreign investors vary from country to country as Johnson and Mitton (2003) stated the benefits of free capital flows are still debating among policy makers and scholars. Besides, Corsetti et al (2001), pointed that large institutional investors exacerbated market pressure of smaller and medium sized emerging economies in the crisis time, but large sized markets were not affected. Thus, the effect of foreign investors on stock market and currency market is also controversial in different periods. And the proportion of foreign investors in stock market and the magnitude of foreign investors in economic system are not the same in each country. Taiwan is a worthy country to study for these three reasons: First, so far, it was the severest financial crisis Taiwan had encountered after the elimination of QFII system, does the financial liberalization help stabilizing stock market and currency market? Second, the proportion of daily trading volume of foreign investors was doubled since the government abandoned QFII system. Does it cause damage to us along with the increase of foreign holding? The last, as a shallow economy, how influential foreign investors could be on Taiwan stock market and exchange market since the flows can flow without limitation?

DATA AND METHODOLOGY

Our main data sources are Taiwan Economic Journal (TEJ). The daily data comprise returns of stock market and currency market, net purchases of foreign investors, investment trusts, and security dealers. In calculating the stock market return, we use $\ln(\text{Index}_t / \text{Index}_{t-1})$ which was also provided by TEJ database. Currency return was calculated as $-\ln(\text{ER}_t / \text{ER}_{t-1})$, we add a minus to adjust the value. Because of European terms (TWD/\$), when value of TWD appreciates the exchange rate decreases. It provides a more intuitive way for us to distinguish the change in value of TWD. Net purchase was computed by purchases minus sales. In this study, we divided entire sample into three sub samples; sub 1 stands for the period before QFII elimination, from January 4, 2000 to October 1, 2003; sub 2 stands for the period without crisis after QFII elimination, from October 2, 2003² to July 18 2007; and sub 3 stands for the period since the crisis, from July 19, 2007³ to December 31, 2009⁴. The entire sample covers from January 4, 2000 to December 31, 2009. That is, four years before QFII elimination and four years after elimination with 948 and 941 trading days, respectively, in order to find the differences in relatively long run. 2 years for the crisis after elimination with 615 trading days.

To analyze the destabilizing effect by foreign net purchases on stock or currency returns, and to find whether foreigners using feedback trading or not, we adopt VAR model which employs market returns, currency returns and net purchases. Because there are strong positive correlations among variables and autocorrelation in variables themselves, it is hard to investigate their relationship. Sims (1980) invented VAR model to solve these problem by establishing a dynamically structural model. VAR model is a structural model that enables the variables in this study be driven by the lags of other variables. Using

² October, 2nd 2003 was the day that Taiwanese government abandoned QFII system.

³ July, 19th 2007 was the day that Bear Stearns Companies' two funds collapsed (Bear Stearns High-Grade Structured Credit Fund and Bear Stearns High-Grade Structured Credit Enhanced Leveraged Fund) and the same day that Dow Jones Industrial Average Index climbed to 14,000 points. Then U.S. stock market started entering bear market.

⁴ December, 31st 2009 was the available data we could collect since we started this study.

Schwarz criterion (SC) and evaluating lag structure to the dynamic system, we determined that four lags were enough to capture most of the effects of institutional investors' net purchases. Moreover, Granger causality test was used to investigate whether the lags of past returns or purchases are jointly significant predictors of future returns or purchases. And we use impulse response function to analyze the effect of a random shock to our variables. To certain, variance decomposition is also adopted to show the magnitude caused by other variables.

EMPIRICAL STUDY

Summary of VAR analysis and Granger causality

We found despite the small scale security dealers also demonstrated some destabilizing effect like foreign investors did. The asymmetry in scale of both institution investors resulted in similar consequences, suggesting that the amount of capital flows do not necessary stand for the influence on stock market. Overall, elimination of QFII does benefit Taiwan as VAR results presented. Besides, destabilizing effects of institutional investors were also reduced. Foreign investors were feedback traders until the crisis hit Taiwan, but their net purchases constantly affect the next day of stock market returns in entire sample. These findings were not similar to domestic institutional investors, investment trusts were negative feedback traders and security dealers always changes strategies. The results of positive feedback traders for foreign investors and negative feedback traders for investment trusts are similar to Karolyi (2002) in Japan. For domestic institutions, the information contribution effects have disappeared since deregulation. The currency market was influence by foreign investors only, domestic institutional investors showed no effect on it. In VAR results, we could say that foreign investors still has stronger influence as their stock holding increased and restrictions has been removed.

Summary of Impulse response function analysis

To summary the results of impulse response analysis, the elimination of QFII did reduce not only foreign investors' but also domestic institutions' influence on stock market, yet increased the influence of currency market, especially when Taiwan was hit by a crisis. Foreign investors had greater impact than locals, but not that powerful compared to their scope. Most of the results of impulse response analysis are consistent with VAR model, it represents the results of this study is robust and could be tested.

Summary of Variance decomposition analysis

The results of innovation of market returns to net purchases of foreign investors and currency returns are similar to Karolyi(2002), he found the proportions of net purchases of foreign investors and currency returns by market returns went up in Japan during Asian crisis. Investment trusts and security dealers exhibited different patterns in this analysis as former results, too. The results in this analysis coincided with VAR model and impulse response analysis, indicating the robustness of this study.

CONCLUSION

In this study, we investigated market returns, currency returns and net purchases of institutional investors before QFII eliminated, after QFII eliminated and in the crisis by VAR model and then impulse response analysis and variance decomposition were employed to ensure the robustness. Our hypotheses were tested and stated as follows; (1) Foreign investors do have stabilizing effect on Taiwanese stock market, except in the crisis period. (2) There is no strong evidence to prove foreign investors destabilized currency market, but their impact on currency market did increase. (3) Compared to domestic institutions, foreign investors are slight stronger than security dealers and investment trusts on Taiwanese stock market during financial tsunami. (4) The role of foreign investors has changed twice after QFII elimination. One was the time after the deregulation, the impact on currency market increased; the other was the time during the financial tsunami, destabilizing effect was detected on stock market. However, we should notice that domestic institutions also have the ability to destabilize stock market before deregulation. Security dealers even casted destabilizing effect in crisis period like foreign investors. The destabilizing effect of foreign investors only became stronger in the crisis. Foreign investors adopted feedback trading strategies until the crisis hit Taiwan, but they still have more impact than domestic institutions on stock market for information contribution exists in entire sample. To all institutional investors, their trading behavior did not stand for the potential to destabilize stock or currency market.

Though foreign investors had demonstrated their destabilizing effect on stock marketing in the crisis, we should understand the reason why they came here. International capital flows seek profit all around the world; it's their nature to escape from a downturn economy. Besides, the flows came back since 2009, reflecting the flight was a temporary move. Similar to Bohn and Tesar (1996) and Hamao and Mei (2001), foreign investors are not the main factor because we found domestic institution, security dealers, also casted destabilizing effect in the crisis with smaller scale of daily trading volume. We thought CBC's exchange rate management diminished the foreign investors' impact on currency market which results the international flows increased but only showed little influence.

We think once we know the nature of international flows, and the ways to deal them with proper financial supervise mechanism. International capital flows can cast their positive effect to a shallow economy country like Taiwan. If we do have good financial environment and nice fundamentals of economy, the flows are not to hot too handle. Besides, government has currency policy, money policy, and fiscal policy to protect the economy system from HOT money. What we should worry about is the rising fiscal deficit would become a swelling that cripples the flexibility of these economic balancing policies. The results of Taiwan could provide policy implications to those countries that still impose regulations on foreign capital flows, and shed light on the issue that could a small, flatter, and export-oriented economy benefit from financial deregulation? We think the answer is a resounding "Yes".