

An Analysis of Leading Economic Indicators: The case of Thailand

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The Asian Financial Crisis initiated in Thailand in 1997 had raised fears of the worldwide economic meltdown since it caused significant macroeconomic-level effects, including sharp reductions in values of currencies, stock markets, and other asset prices of several Asian countries. One of the most common characteristics in countries that have experienced financial crises are lax monetary policy and lack of stringent monitoring on leading economic indicators. To shed light on whether Thai economy is immune from the crisis that could iterate, this paper aims at analyzing the evolution of macroeconomic and financial variables. The variables used in this analysis are chosen in light of theoretical considerations and subject to data availability.

A. The Financial Sector

In the early 1990s, the Bangkok International Banking Facility (BIBF) was established with the intent to attract capital flow from foreign countries. Unfortunately, this financial liberalization did not go along well with the business realities and eventually preceded financial crisis. To begin, the first five figures will analyze indicators associated with financial liberalization. A money multiplier is the amount of money that banks generate with each baht of reserves; in other word, it is the ratio of deposits to reserves in the banking system. Theoretically, there are two factors determining money multiplier – how much individuals hold cash on hand and how much banks hold as a reserve. As the figure1 shows, there was a decline in the number of the multiplier due to the fact that banks were reluctant to lend money during the period of AFC, however, for most of the 2000s until present, it has been steady as a rock at the value around 11. This is really important over the long run since a stable and predictable money multiplier will determine the price level in the economy.

The solid line in figure2 illustrates the percentage deviation from trend of domestic credit provided to private sector as a percentage of GDP while the dotted lines denote plus/minus one standard error around the actual values. It can be observed that domestic credit/GDP stood below the trend since the beginning of the 1980s but gradually rose due to the fact of the rapid evolution of Thai economy. However, the figure increased to be above its normal level prior to the AFC and particularly accelerated markedly as the crisis approached, consistent with the credit boom (and bust) story. The increase in the ratio eventually grew approximately 60% more than the tranquil level, this may be because the Bank of Thailand pumped money into the economy in an attempt to alleviate the financial situation. After reaching its peak, the ratio sharply declined and remained below the trend for almost a decade until it turned to rise again in the late 2000s. More importantly, this number has to be carefully monitored since too much credit granted may cause an overheated economy. However, when considering the ratio of non-performing loans (NPL) to total gross loan in figure3, the proportion of NPL has declined over the years since AFC which can be explained by the betterment of banks' stringent prudential

rules and regulations. However, the ongoing credit quality in the steel industry within the country is what still needed to be thoroughly monitored by the commercial banks

The solid line in figure4 and 5 represent the lending-deposit rate ratio and the interest rate spread, respectively, while the dotted lines in both diagram denote plus/minus one standard error around the actual value. The horizontal lines in both figures represent the average value of both indicators during the observation period. From figure4, the lending-deposit rate ratio stood stably well below the average value up until the mid of 2004 where the ratio began to climb right after the Federal Reserve raised its target for a key short-term interest rate. During the time of GFC, this ratio sharply skyrocketed once again, possibly reflecting a deterioration in credit risk. Moreover, we can also observe the similarity of the relationship between lending and deposit via interest rate spread as shown in figure5. It can be seen that the spread between lending and deposit rate also peaked in 2004 and during GFC. One thing that should be closely paid attention is the rising trend of both lending-deposit rate ratio and interest rate spread since it may signify bank's unwillingness to lend and increasing credit risk in the economy.

B. The External Sector

The next three panels of figure 6, 7 and 8 present indicators associated with the current account. The solid line in these 3 diagrams represent the percentage deviation from trend of export value, import value and real effective exchange rate, respectively, while the dotted lines denote plus/minus one standard error around the actual value. As shown in figure6, it chronicles the abysmal performance of Thai export value by the time of the AFC, in which the value of export significantly subdued approximately 20 percent below its normal path. Once the Bank of Thailand led Baht float, export performance rebounded. On another hand, import performance had been worsening as the AFC approached. Later on, both export and import value had hovered around the normal level after AFC. Despite the low degree of deviation from trend of Thailand's international trade after the period of GFC, an economic slowdown in China can have a profound impact on Thailand too.

Preceding to the time of AFC, figure8 demonstrates the evidence of real exchange rate being overvalued, however, the appreciation of baht reversed promptly with the devaluation, suggesting that productivity shocks or preference changes were unlikely to account for the pristine appreciation. It can be obviously observed that baht has gained its value overtime, however, baht began to depreciate in 2015 since the US economy got recovered. A first time hike in Fed Fund Rate since 2006 brought about capital flight which consequently regained the value of dollar. Plus, dollar became stronger against other currencies, including Thai baht, following the move of Federal Reserve that decided to cease quantitative easing in 2015. Moreover, the BOJ's inaction to ease monetary policy at April meeting rendered the baht to be depreciated against the Japanese yen.

The blue line in figure9 demonstrates the ratio of Thailand's external debt to international reserves while the red line depicts the ratio of monetary aggregates to international reserves. There is a strong correlation between external debt and monetary aggregates because the money

financed will circulate in the economy which can be basically observed that money supply shrinks usually in a recession then the velocity also declines; during boom times, the velocity increases and so does the money supply. Theoretically, external debt and reserves can affect a country's external vulnerability through their impact on the country's ability to discharge external obligations. An inability to discharge obligations may lead inevitably to the crisis, as foreign creditors withdraw and domestic residents seek refuge abroad for their assets, and the recent global financial crisis has made clear the high costs that the countries bear when they run short of liquidity. The blue line in figure9 suggests that the level of external debt has not yet gone far beyond the level of international reserves, signifying that Thailand is capable of discharging its external obligations. Basically, the ratio of monetary aggregates to international reserves should grow well above its norm prior to the crisis. The increase in the ratio can be explained by both a vigorous expansion of money in the economy and a sharp decline in foreign currency reserves. However, based on numerical data, the red line can witness a not-overheated economy. Moreover, the debt coverage ratio shown in figure10 has gradually fallen throughout the year. The possible reasons for such decline are lower demand for spending as a result from the economic slowdown and people can borrow more domestically.

The bar chart in figure11 demonstrates the components of Thailand's capital account during the year 2012 – 2015. Obviously, portfolio investment and foreign direct investment are the two major components in the capital account. In the same diagram, the yellow line represents the portfolio investment as a percentage of total capital account while the green line depicts the foreign direct investment as a percentage of capital account. An analysis of capital account is crucial, recall the AFC, Thailand had opened up its economy to the world and an unprecedented amount of foreign capital was crossing borders into its economy, mostly in the form of portfolio investment. This meant that investments were short term and easy to liquidate instead of more long term and harder to dispose of quickly. However, according to figure11, the amount of hot money flowing into Thai economy in the recent years sees no significant change comparing to the stable level of cold money, indicating neither speculation on country's financial market nor risk of asset price bubbles.

C. The Real Sector

Figure12 shows the evolution of SET index where the solid line represents the percentage deviation from long-term growth path while the dotted lines denote plus/minus one standard error around the actual value. According to the diagram, the weakening in equity prices during the time of GFC was reflecting both the deteriorating cyclical position of the economy, reduced foreign demand as capital inflows were reversed, and the worsening of investors' sentiment. Later on, stock prices were about to get back to the long-term track in 2011 and hovered around the trend for the last five years. Furthermore, the consideration of stock market's price-to-earnings ratio (P/E ratio or price multiple) can help determine whether the market is over or undervalued. From figure13, P/E ratio of SET has gradually increased to around 20 times which is well above the average level at 12 times. On one hand, this can be claimed that a high level of P/E ratio could probably indicate a potential bubble, created by lots of hype and buying activity

that keeps pushing the price higher. But P/E analysis is only valid to some extents and, of course, it has its pitfalls. Because a high value of P/E ratio does not necessarily mean that the market is overvalued, rather, it could mean that investors expect that market will generate strong profit in the near future. Therefore, the comparison between the P/E ratio and output growth will tell a more complete story than the P/E ratio on its own. According to figure14, it should be noticed that the correlation between P/E ratio and GDP from the beginning of 2000s is approximately 0.7 and despite the fact of low GDP growth, stock prices are standing at a very high level.

Lastly, figure15 shows the development of property credit for which the solid line represents the percentage deviation from long-term growth path while the dotted lines denote plus/minus one standard error around the actual value. As shown in the diagram, the amount of credit granted in the country rose dramatically commencing to the AFC and suddenly collapsed below the trend by approximately 40 percent. Afterward, it has been steadily increasing and has been above the long-term path already. The last four panels of figures demonstrate the percentage deviation from trend of property prices. Most of which is warning the increasing in prices above the trend except for the price of single detached house. Therefore, the strict regulations on property credit is really necessary since excessive consumer housing debt could repeat the reminiscence of subprime mortgage crisis.

To summarize, the analysis reveals that there are no signals of the coming of the crisis yet since most of the leading economic indicators are in the appropriate level. However, a thorough monitor of property credit and property prices is really required to prevent the possible occurrence of property price collapse. For final remark, monetary policy can actually be considered one of the factors that contributed to the crisis, at least to the extent that it is too accommodative to maintain price stability. According to figure20, for Thailand, it can be said that monetary policy is still effective.

Appendix

Figure1: M2 Multiplier

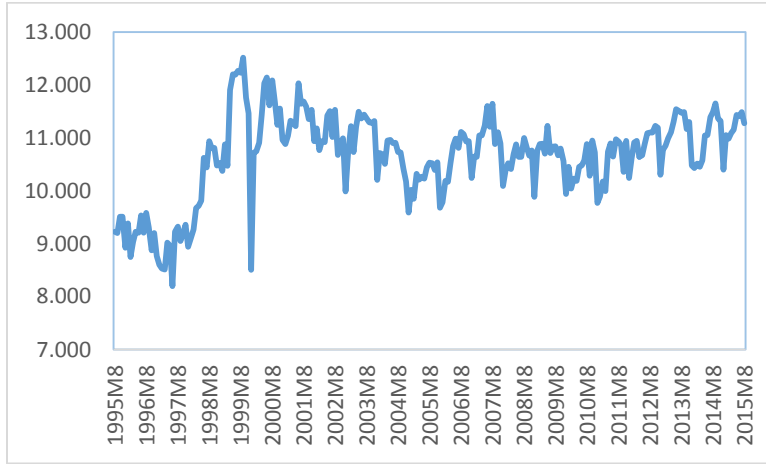


Figure2: Domestic credit to private sector (%GDP)

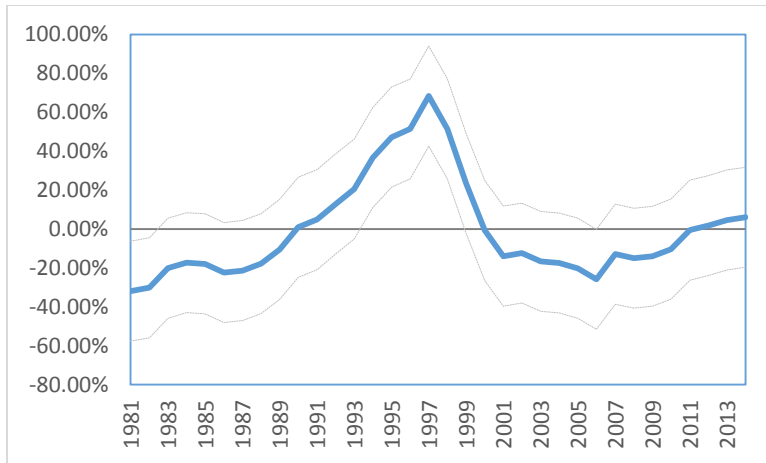


Figure3: Non-performing loans

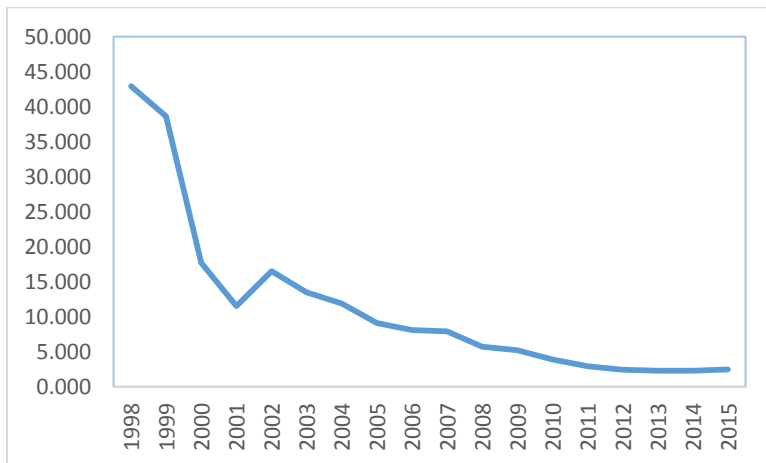


Figure4: Lending-to-deposit rate ratio

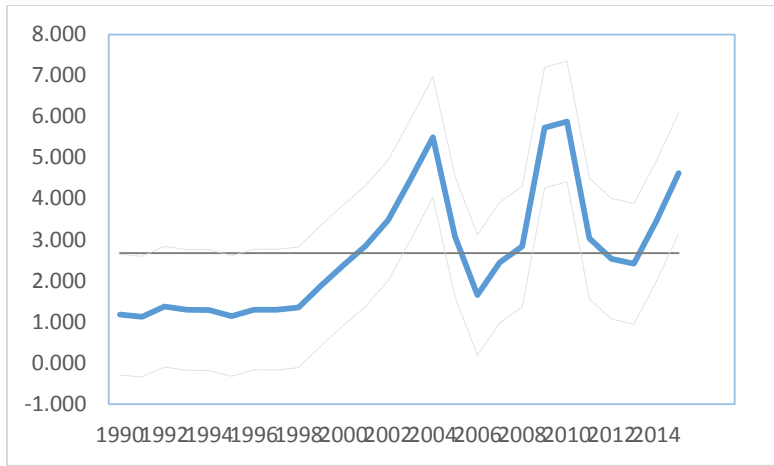


Figure5: Interest rate spread

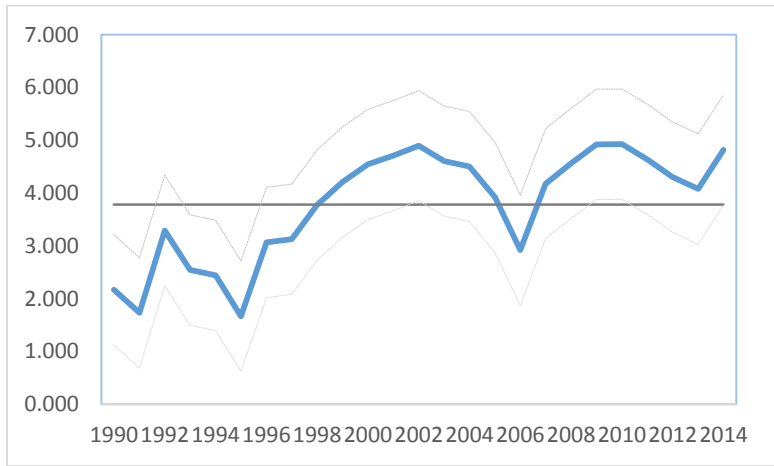


Figure6: Export (%deviation from trend)

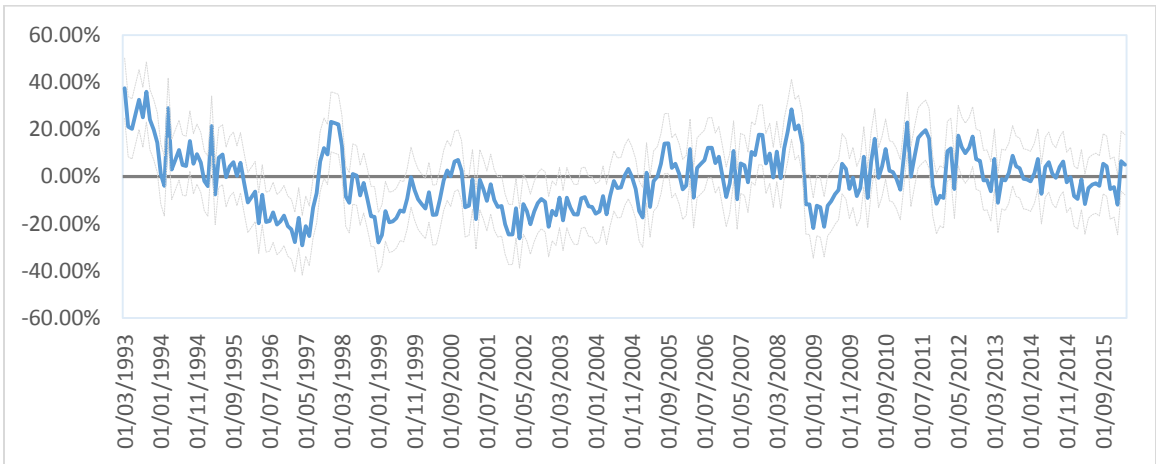


Figure7: Import (%deviation from trend)

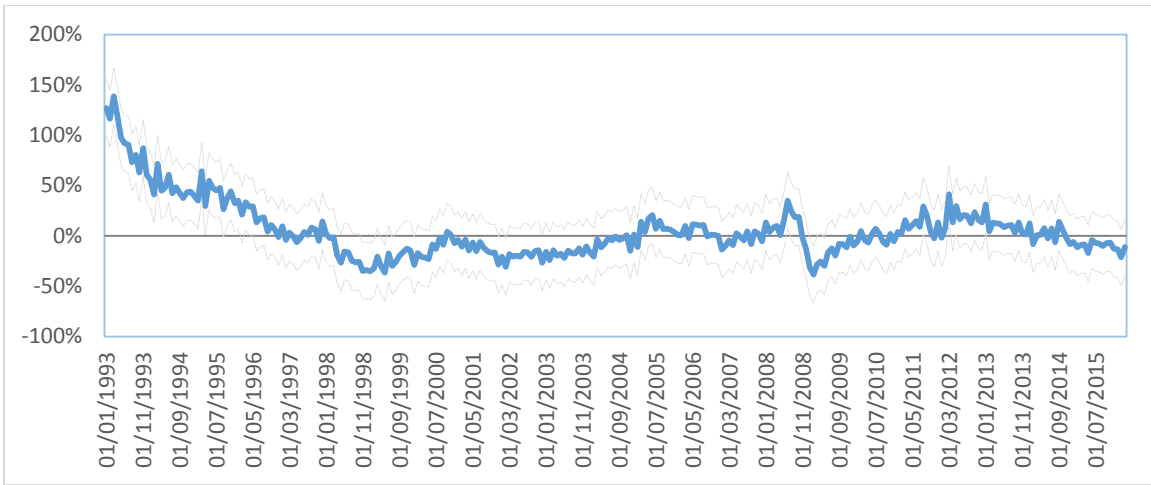


Figure8: Exchange rate volatility (2012=100)

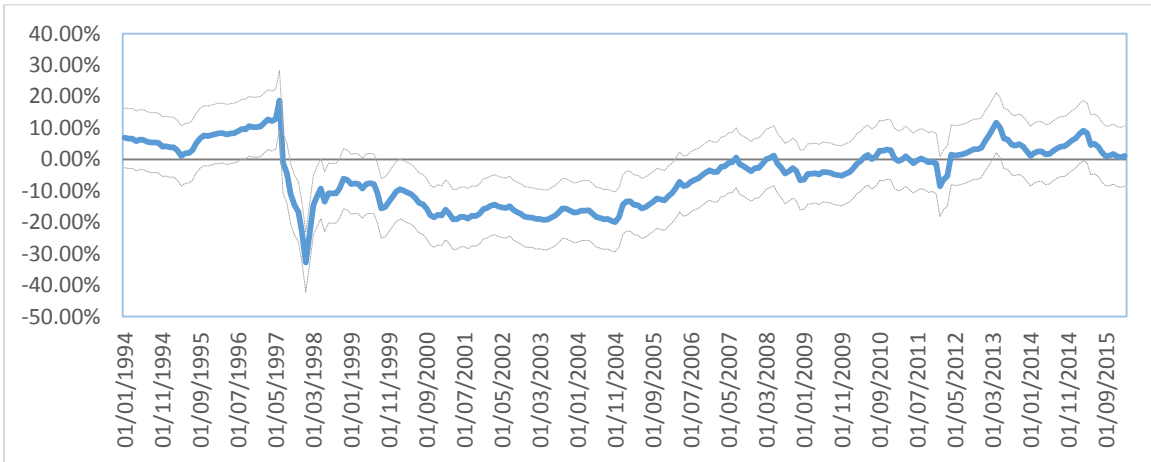


Figure9: External debt-reserves ratio & monetary aggregates-reserves ratio

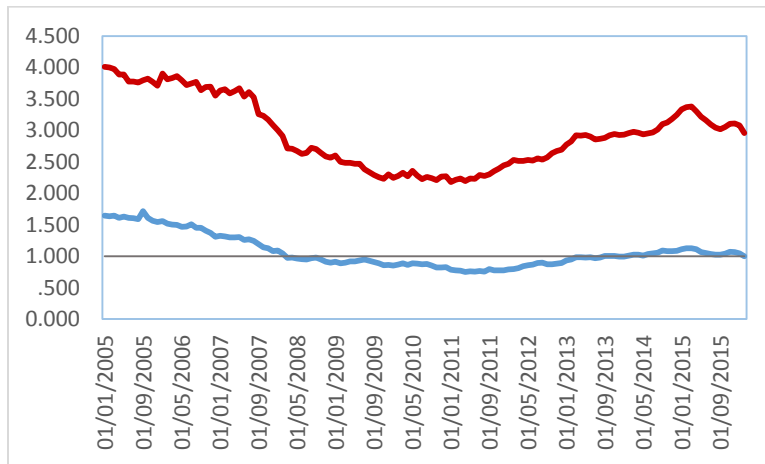


Figure10: Debt service ratio

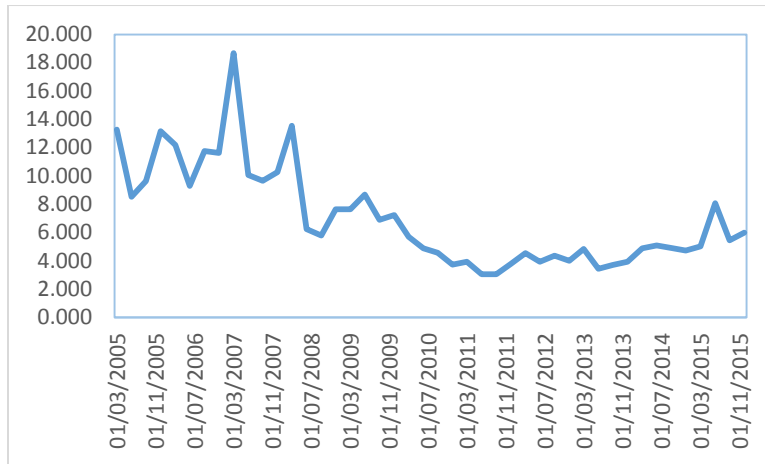


Figure11: Capital account

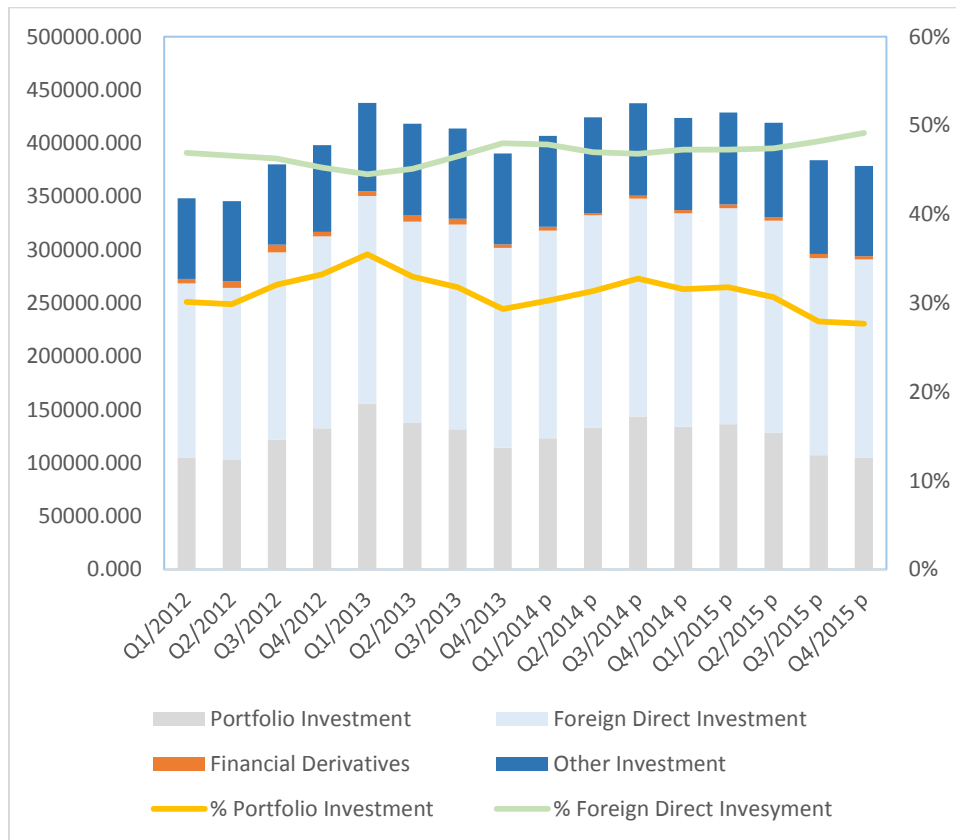


Figure12: SET index (%deviation from trend)

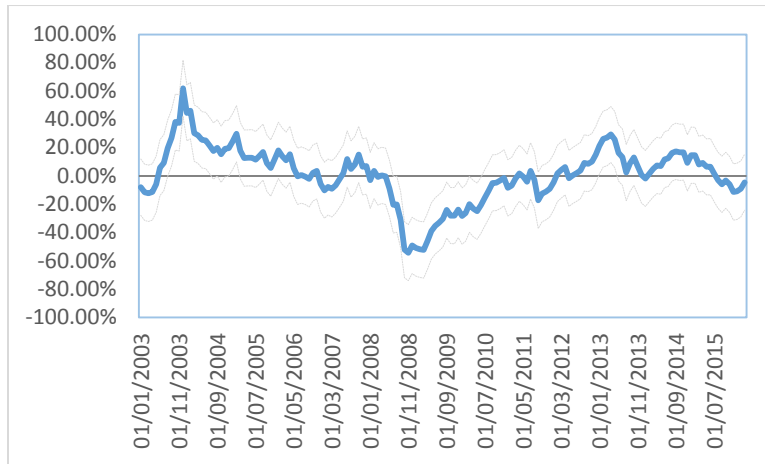


Figure13: SET P/E ratio

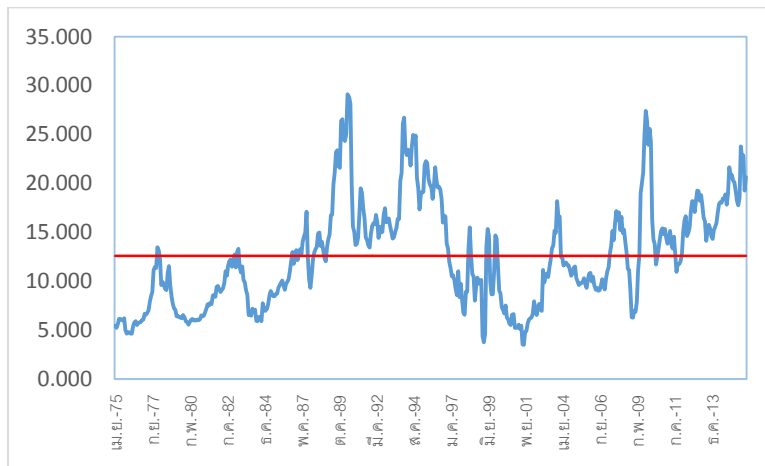


Figure14: Comparison of P/E ratio and GDP

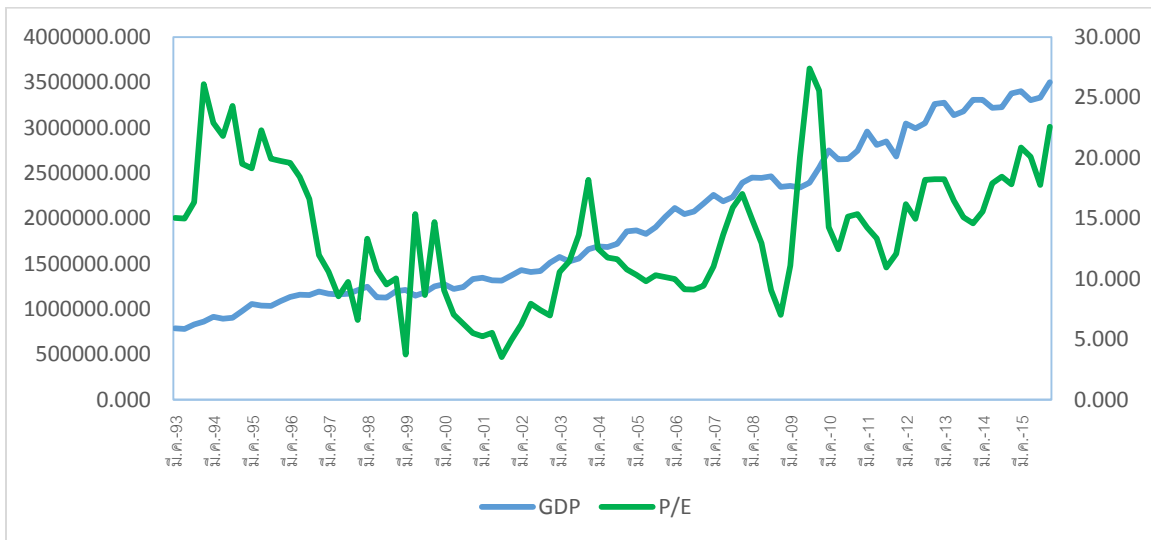


Figure15: Property credit (% deviation from trend)

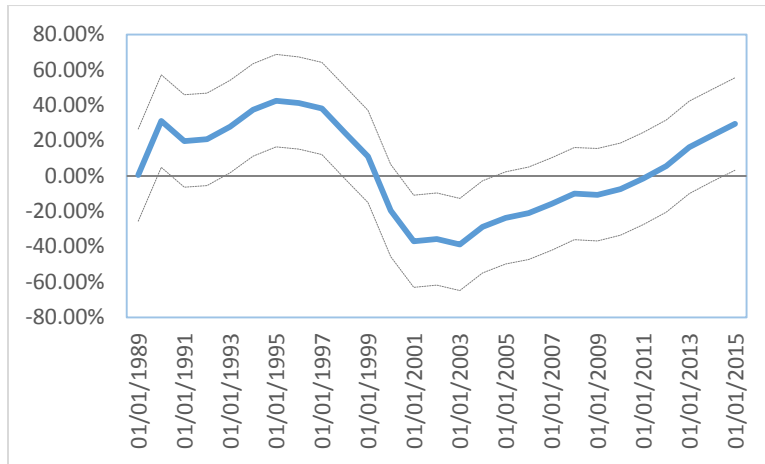


Figure16: Single detached house price index (% deviation from trend), 2009=100

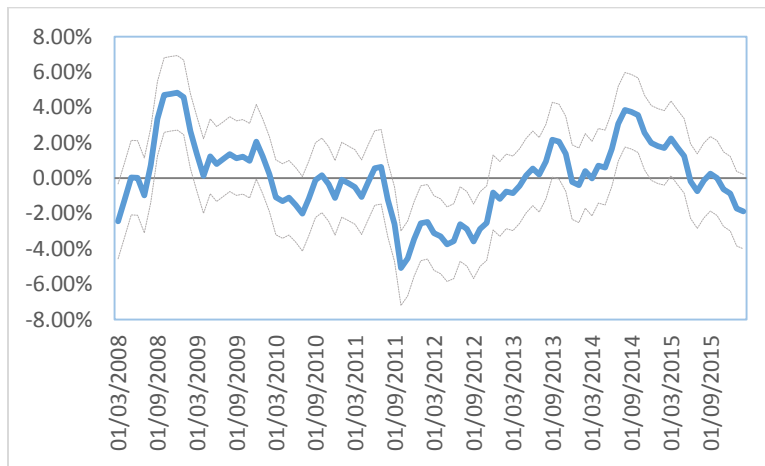


Figure17: Town house price index (% deviation from trend), 2009=100

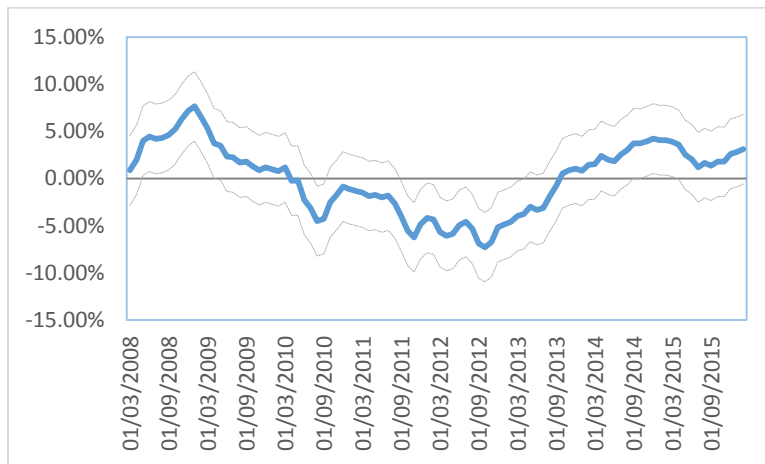


Figure18: Condominium price index (%deviation from trend), 2009=100

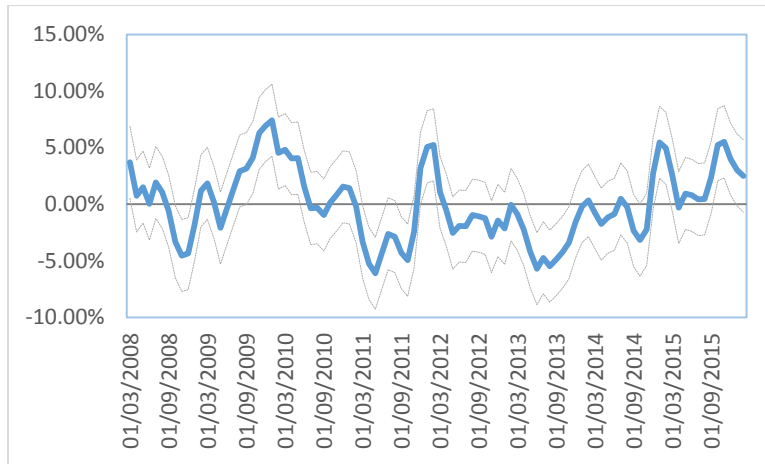


Figure19: Land price index (%deviation from trend), 2009=100

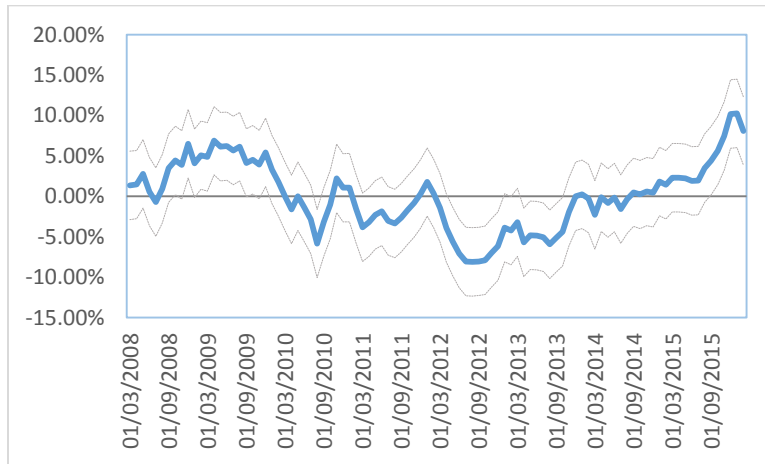


Figure20: Effectiveness of monetary policy

