- CHAPTER 5 -

CONCLUSIONS AND DISCUSSIONS

5.0 Overview

The findings documented in chapter four will be used in this chapter to conclude the thesis. The conclusion and discussion is base on how the findings may help an investor to strategize the investment.

The correlation value and trend recorded from the analysis provides an insight on how the three major currency pairs behave individually and related to each other, in terms of volume and spread. Again, the use of MODWT (wavelet method) provides a better view of the actual event compared to traditional GARCH method, which past literatures have shown to have limitation when applied to high frequency data.

5.1 Correlation of Spread of Currency Pair Combinations

The results and findings show that for all currency pairs, on all Mondays, the correlation of spread for all currency pair combinations tends to branch out as the time period moves from D1 to D7. However when consider this pattern on an average value point of view, referring to Figure 6, it is observed that there is a similar trend in the average spread correlation movement for all combinations, with exception to the EURO/USD and GBP/USD combination from the time period D5 onwards.

Over the period of June 2008 to December 2008, the correlation of spread for EURO/USD and GBP/USD is relatively higher than the two other currency pair combinations (EURO/USD and YEN/USD, and GBP/USD and YEN/USD) and rises gradually from time period D1 to D5. From D5 on wards it rises in a higher rate.

Also noted is that the correlation value other two combinations (EURO/USD and YEN/USD, and GBP/USD and YEN/USD) didn't change that much relatively. Thus it can be concluded that the spread of YEN/USD is not significantly positively correlated with EURO/USD and GBP/USD. Furthermore, from Table 1, the variance for the correlation of spread for EURO/USD and GBP/USD is relatively the lowest among the three combinations. As for the variance for the correlation of volume for EURO/USD and GBP/USD, it is also relatively the lowest among these three combinations.

Based on the behavior observed, forex traders may have an option to consider in their trading strategies. Knowing that GBP/USD and EURO/USD is relatively higher in positive correlation but YEN/USD is not significantly positively correlated with both currency pairs, a portfolio may be created to either maximize risk (subsequently gain) or minimize risk (diversification).

Possible trading strategies:

i. If there is anticipation or release of bad news which can impact either EURO/USD or GBP/USD, the trader may sell (divest) both EURO/USD and/or GBP/USD. And then buy YEN/USD, which its spread does correlate highly with them. Alternatively, to maximize gain (higher risk involved), the trader may go for short trading in both GBP/USD and EURO/USD.

ii. For an optimum portfolio (minimum risk that gives the maximum gain), which mainly for a mid to long term investment, the trader may simply create a two asset portfolio consisting of GBP/USD and YEN/USD or EURO/USD and YEN/USD. It may not be needed to have all three currency pairs in a three asset portfolio because GBP/USD and EURO/USD already relatively highly positively correlated.

iii. Most investors prefer to buy at when the spread is narrow. Thus, since the after D5, the correlation of spread of EURO/USD and GBP/USD moves to higher positive value, investors can use either currency pair as an indicator for the timing of trade.

5.2 Correlation of Volume of Currency Pair Combinations

There is not much risk diversification that can be derived from the correlation of volume. However, the results from the correlation of volume may offer the trader an insight on the timing of doing/executing a trade.

Figure 11 shows that the correlation of the volume for all currency pair combinations starts (at D1) from a higher positive level and gradually moves higher as time period moves from D1 to D7. The volume for EURO/USD and GBP/USD currency pair combination has the highest value of correlation and at D7 it is very close to 0.9. Therefore it can be concluded that the liquidity of for both EURO/USD and GBP/USD have a high tendency moving in the same direction, especially so when after the New York financial market opens. The other two currency pair combinations (EURO/USD and YEN/USD, and GBP/USD and YEN/USD) do exhibit the similar trend but at a relatively lower correlation value.

Possible trading strategies:

i. In this example, it is assumed that the behavior observed remains valid until present time. Assume that a trader observes a high selling volume in EURO/USD because of the financial crisis in Greece recently. If the trader holds EURO/USD, the trader may sell EURO/USD and buy YEN/USD because the liquidity of YEN/USD is highly positively correlated with EURO/USD but the spread is not highly positively

correlated with EURO/USD. In summary, the trader may quickly sell EURO/YEN and close to at the same time quickly buy YEN/USD, therefore minimize on the re-investment cost from diversifying from EURO/USD.

ii. As the liquidity for all currency pair combinations are positively correlated, the investor may have to think twice about having all these three currency pair in the portfolio as it may be harder to divest in low liquidity period.

5.3 Correlation of Spread and Volume of Individual Currency Pair

From Figure 16, it is observed that on average the correlation of all the currency pair increases as the time period moves toward the opening of New York financial market, noticeably the correlation of spread and volume of GBP/USD is at the highest level among the three currency pair. However, the correlation for all currency pairs slightly declines after D5. This proves that using wavelet method, it can prove the rule of thumb of forex trading, that is as the volume goes up the spread goes down (gets narrower). After time period D5, New York financial market opens and thus more volume.

Assuming that this post New York opening behavior holds, it is concluded that major forex traders are playing a wait and see game when time period is close to the opening of New York financial market. The evidence for this is that at time period D1 to D5, the correlation of volume and spread is actually moving

upwards for all currency pairs, which means as the volume goes up the spread goes up (gets wider). This doesn't fit the rule of thumb of the market and most probably for this to happen, there is no significant market force in it. And also means that there is not much involvement from major forex traders during this period.

This insight may provide smaller forex traders, who "piggy back ride" on major forex trading activities, to time their trades after or close to the opening of New York financial market because spread tends to be smallest during then.

5.4 Recommendation for Future Research

The recommendations for future research are:

i. In this thesis, only three major currency pairs are used in the study. This does not provide a good view of the whole forex market, regionally or globally. Thus, to get a better insight, more currency pairs have to be studied concurrently.

ii. The three currency pairs selected are the mover and shaker of the forex market because these are the top three heavily traded currency pairs. It would be interesting to consider safe heaven currency pairs such that includes Swiss Francs.

iii. The global trade balance between countries does play a major role on the flow of forex activities. Therefore, there is an importance to study the movement of a currency in relation to the commodities market (for example, gold and oil) sentiments.

iv. To compare results traditional method such as GARCH. This may provide an idea how far off GARCH results can be from wavelet method. By further comparing the analysis results with the actual market data, it may be possible to see the accuracy of results from both GARCH and wavelet is with relations to the actual market activities.

v. To study the lead/lag of the currency pairs and currency pair combination. In this thesis, the correlation wave used as a benchmark. However there is not indication on which currency pair leads or lags the other currency pair. Knowing the lead/lag information for the currency pair will allow the investors to select the right currency pair which leads, as an indicator, to strategize investment strategies.

5.5 Summary

This thesis has covered the following using wavelet methods, as mentioned in earlier chapter:

i. Study of behavior of individual currency pair behavior, in relations to spread and volume.

ii. Study of correlation of spread for all currency pair combinations.

iii. Study of correlation of volume for all currency pair combinations.

Based on the finding and results, this chapter concluded that the insights into the three currency pair behavior on every Monday from June 2008 to December 2008 may provide options for traders to strategize their activities differently, for investment or diversification.

Recommendations are provided for further studies in moving toward a wider understanding of the currency behavior with relations to other currency pairs and external events that are injected into the market, such as government interactions, release of new and others.