

A Study On Technical Analysis With Reference To International Forex

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ABSTRACT

The foreign exchange market (Forex, FX, or currency market) is a global decentralized market for the trading of currencies. The foreign exchange market assists international trade and investments by enabling currency conversion. Our study is to test the technical tools to analyze about the technical impact and its return in the market. For this purpose 13 cross currency pairs were taken as sample size and Jensen's Alpha, Beta, Relative Strength Index, and Buy and Hold Abnormal Return were used as technical tool for analysis and the conclusion is that it's not preferred to invest in JPY pairs as the volatility and the return are not up to the mark and its preferred to invest in EURCAD as the return was high when compared to other scripts and the market was moving accordingly to its cross currency pair.

Keywords: *Forex, RSI and Currency pairs.*

INTRODUCTION

Forex, short for the Global Foreign Exchange Market, is the largest single financial market in the world. Job Monkey includes a section on this topic because Forex trading can be done just about anywhere there's an Internet

connection. Many traders are able to earn extra money over and above what their 'real job' provides - working from home. Also called the Currency Exchange, the FOREX is the financial field where currencies from different nations are exchanged for that of another (with the equivalent of over 4 trillion dollars changing hands daily, according to FXStreet). The Forex is not a physical market like the AMEX (American Stock Exchange) or the NYMEX (New York Mercantile Exchange), but more of a global network of interconnected banks, investments firms, hedge funds, currency traders, and other financial and banking entities. Due to the nonexistence of a physical exchange, the FOREX market operates on a full 24-hour period, spanning from one time zone to another in all the major financial centers. There are three main economic zones that comprise the Forex market: Australasia (Australia and Asia), Europe, and North America. This structure enables participants in the Forex market to trade at any time of day. After a shakeup in the structure of the Forex market in the early 1970s, many financial institutions such banks, hedge funds, and brokerage houses. This era also saw an increase of individual traders enter the Forex market. This led to a structure of power resting in the hands of the economy and not the government and national banks. Today, the factor that drives the Forex market is the economic law of supply and demand.

In the 1980s Forex activity reached roughly one billion dollars daily. Today, in large part due to the free-floating system (a system reliant on international trade and commerce) and the technological progress in the industry, the Forex market currently sees daily transactions exceeding 4 trillion dollars. In the 21st century the Forex market has seen substantial growth. With international barriers broken down by technology, and international trade at the highest levels in history, currency exchange is becoming more and more important as an investment tool and as a means for monetary exchange.

- ❖ **Time:** With the global aspect of the Forex market expanding from Australia to England to New York, the Forex is a 24 hour trading center.
- ❖ **No Physical Exchange:** Unlike the NYSE, AMEX, and the Chicago Mercantile Exchange, the Forex market has no physical exchange. Most transactions are made between two professionals over an electronic network or telephone.

- ❖ In the stock markets most of the trading is done through brokers, who serve as middlemen. In the Forex Market, there are no middlemen. Most transactions are conducted directly between broker and agent, or individual and broker.
- ❖ **Transaction Costs:** Trading directly with a broker eliminates much of the transaction fees (commissions) that are found on the other stock markets. The Forex market as we know it today originated in 1971. However, the idea of foreign currency exchange dates back to the Middle Ages when paper money was introduced and represented transferable third-party payments for merchants and traders.

During the almost fifty year period from the 1870s to the end of WWI in 1918, the gold exchange standard reigned over the international economic system. Because they were supported by the value and price of gold, currencies experienced a new era of stability under the gold exchange. However, the gold exchange standard had many weaknesses. The key weakness was the boom-bust economical pattern. The economic peaks and valleys (economic booms and recessions) created by this pattern were in large part due to a country's economic instability caused by a lack of gold reserves and a devaluation of commodities and currency. Up until the end of WWI, the Forex markets were relatively inactive and remained stable. However, after WWI the volatility of the Forex market greatly increased and speculative (definition found in Key Terms section) activity saw tremendous growth. Then, from 1931 until 1973, the Forex market went through a series of changes. These changes led to the structure of the Forex market today.

Established in 1944 at a conference with representatives from 44 nations in New Hampshire, the Bretton Woods Agreement fixed national currencies against the U.S. dollar, and positioned the dollar at a rate of \$35 per ounce of gold. The purpose of this agreement was to curb the economic instability of nations due to the gold exchange standard caused boom-bust patterns. On the global trading front, this agreement aimed at establishing international economic stability by preventing money (currencies) from jumping national borders, and to

control speculation (see definition in key terms section) in the international currency market.

The countries participating in this agreement agreed to attempt to maintain the value of their currency within a thin margin against the dollar and an equivalent rate of gold as needed. As a result of this, the U.S. dollar became the standard for currency value and was a top reference currency as it was now exchangeable into gold. A calculated move, this agreement signaled the shift in global economic power from Europe to the U.S. Also as a result of the agreement, and as an attempt to restore stability in the global marketplace, participating countries were prohibited from devaluing their currency to benefit their foreign trade. The policies set forth by the Bretton Woods Agreement were short lived, however, as the trading volume of the international Forex market led to massive movements of capital. This was caused by post WWII prosperity, which in turn destabilized the foreign exchange rates established in Bretton Woods. A new system was needed to answer this growth and provide an arena for better trade in the burgeoning Forex market.

REVIEW OF LITERATURE

Lukas Menkhoff (2006) analyzed four arguments that have been put forward to explain the continuing widespread use of technical analysis and its apparent profitability: that the foreign exchange market may be characterized by not-fully-rational behavior; that technical analysis may exploit the influence of central bank interventions; that technical analysis may be an efficient form of information processing; and finally that it may provide information on non-fundamental influences on foreign exchange movements. Although all of these positions may be relevant to some degree, neither non-rationality nor official interventions seem to be widespread and persistent enough to explain the obstinate passion of foreign exchange professionals for technical analysis.

Christopher J. Neely et.al., (2011) introduced the subject of technical analysis in the foreign exchange market, with emphasis on its importance for questions of market efficiency. “Technicians” view their craft, the study of price patterns, as exploiting traders’ psychological regularities. The literature on technical analysis has established that simple technical trading rules on dollar

exchange rates provided 15 years of positive, risk-adjusted returns during the 1970s and 80s before those returns were extinguished. More recently, more complex and less studied rules have produced more modest returns for a similar length of time. Conventional explanations that rely on risk adjustment and/or central bank intervention do not plausibly justify the observed excess returns from following simple technical trading rules. Psychological biases, however, could contribute to the profitability of these rules. We view the observed pattern of excess returns to technical trading rules as being consistent with an adaptive markets view of the world.

SyedHadi Mir Yazdi (2013) focused on the MACD indicator for four currencies namely EURUSD, GBPUSD, USDCHF, and USDJPY individually to identify the effectiveness of the indicator regarding the amount of profit generated, using hourly data of market stretch from January 2001 to December 2010. Virtual Historical Trading Software (VHTS) is developed for the purpose of computing the indicator based on its original formulas and interpretations; for applying the assumptions; for trading based on buy and sell signals generated by the MACD indicator.

STATEMENT OF PROBLEM

The study is about analyzing the technical factors of currency pairs in different Greenwich mean time. The currency market is otherwise called as curve market because it runs for the whole day i.e., 24*5. The movements will be huge at the time of global opening of different countries. But the investors are not aware about the timing and impact of timing in the market.

OBJECTIVES OF THE STUDY

PRIMARY OBJECTIVE

- ❖ The primary objective of the study is to find out the technical and fundamental analysis that supports the FOREX trading.
- ❖ Analyze all the currency pair available in mt4 platform

SECONDARY OBJECTIVE

- ❖ Provide suggestions about the fluctuation of the few currency pairs that are taken for study.
- ❖ Assisting the clients in trading.

SCOPE OF THE STUDY

The study is conducted in a way to calculate the volatility of Forex market for past one year. This will help the investors viz, individuals and the clients of the company to yield them higher return with lesser risk.

NEED OF THE STUDY

The study is about analyzing the technical factors of Forex market in different GMT'S. The need of the study is to know about the price variations in different timings of the market when the is day shift process accordingly.

RESEARCH METHODOLOGY**Research design**

The type of research design is undertaken in analytical design since the pricing movements of Forex markets are analyzed.

Sample design

For the purpose of this study the daily prices of currency market are included from Global currency trading and their price movements are computed and studied. We will be analyzing the following prices

Pairs taken for the study are as follows

Pairs related with American dollar	USDCHEF, USDCAD
Pairs with Japanese Yen	USDJPY, EURJPY, AUDJPY, NZDJPY, GBPJPY, CHFJPY, CADJPY
Pairs With Euro	EURUSD, EURCAD, EURAUD,
Pairs with Great Britain pound	GBPUSD

Pair with Australian Dollar	AUDUSD
Pair with New Zealand Dollar	NZDUSD

Time duration of the study

The samples for every pairs taken for the study are taken from 31/4/2017 to 31/3/2018.

Sources of data

- ❖ International currency prices from MT4 platform
- ❖ Dollar charts from Windsor brokers
- ❖ Fundamental data from www.forexfactory.com
- ❖ **Tools used for analysis:** RSI, BETA, JENSEN'S ALPHA and BHAR

ANALYSIS AND INTERPRETATION**RELATIVE STRENGTH INDEX****USDJPY**

The first buy was initiated at 97.12\$ at 30 level and the target got achieved at 90.59\$. The total profit occurred out of the trade was -693 pips. The second short was initiated at 91.89\$ and the target got achieved at 90.72\$ and the total profit out of the trade was 117 pips. The third trade was initiated as long at 91.04\$ and the target was at 92.28\$ and the total profit was at 124 pips. The conclusion is that out of all trades the USDJPY occurred a loss due to a huge loss in a single trade and it's not preferred to invest in this pair based on RSI.

USDCHF

The first buy was initiated at 0.9245\$ at 30 level and the target got achieved at 0.9425\$. The total profit occurred out of the trade was 180 pips. The second short was initiated at 0.9504\$ and the target got achieved at 0.9388\$ and the total profit out of the trade was 116 pips. The third trade was initiated as long at 0.9293\$ and the target was at 0.9218\$ and the total profit was at -71 pips. The fourth short was initiated at 0.9212 and the target was at 0.9072 and the total profit was at 130 pips. The fifth buying was at 0.8964 and the target was at

0.8926 and the total profit was at -48\$. The conclusion is that out of all trades the USDCHF occurred a profit and its preferred to invest in this pair based on RSI.

USDCAD

The first buy was initiated at 1.0284\$ at 30 level and the target got achieved at 1.0420\$. The total profit occurred out of the trade was 136 pips. The second short was initiated at 1.0532\$ and the target got achieved at 1.0371\$ and the total profit out of the trade was 160 pips. The third trade was initiated as long at 1.0315\$ and the target was at 1.0334\$ and the total profit was at 20 pips. The conclusion is that out of all trades the USDCAD occurred with profit and its preferred to invest in this pair based on RSI.

NZDUSD

The first buy was initiated at 0.8541\$ at 30 level and the target got achieved at 0.8574\$. The total profit occurred out of the trade was 33 pips. The second short was initiated at 0.8672\$ and the target got achieved at 0.8265\$ and the total profit out of the trade was 407 pips. The third trade was initiated as long at 0.8321\$ and the target was at 0.8181\$ and the total loss was at 140 pips. The conclusion is that out of all trades the NSDUSD occurred with profit with 2 trades and there was a loss with one trade overall the cross currency pair gave profit and its preferred to invest in this pair based on RSI.

NZDJPY

The first buy was initiated at 81.58\$ at 30 level and the target got achieved at 86.79\$. The total profit occurred out of the trade was 521 pips. The second short was initiated at 87.29\$ and the target got achieved at 81.86\$ and the total profit out of the trade was 543 pips. The third trade was initiated as long at 76.74\$ and the target was at 78.09\$ and the total profit was at 135 pips, the fourth short was initiated at 79.35 and the target was at 77.86 and the total profit was at 149 pips, the fifth long was initiated at 76.14 and the target was at 83.24 total profit was at 710 pips. The conclusion is that out of all trades the NZDJPY occurred a loss due to a huge profit overall and no trade occurred a loss in the past one year and its preferred to invest in this pair based on RSI.

GBPUSD

The first buy was initiated at 1.6575\$ at 30 level and the target got achieved at 1.6719\$. The total loss occurred out of the trade was 144 pips. The second short was initiated at 1.6744\$ and the target got achieved at 1.6594\$ and the total profit out of the trade was 150 pips. The third trade was initiated as long at 1.5904\$ and the target was at 1.6038\$ and the total profit was at 134 pips. The fourth short was initiated at 1.6220\$ and the target got achieved at 1.5626\$ and the total profit out of the trade was 594 pips. The fifth trade was initiated as long at 1.5016\$ and the target was at 1.5419\$ and the total profit was at 403 pips. The sixth trade was initiated as short at 1.5640\$ and the target was at 1.5195\$ and the total profit was at 443 pips. The conclusion is that out of all trades the GBPUSD occurred with profit with maximum of the trades and only one trade occurred a loss and its preferred to invest in this pair based on RSI.

GBPJPY

The first buy was initiated at 164.60\$ at 30 level and the target got achieved at 171.24\$. The total profit occurred out of the trade was 664 pips. The second short was initiated at 174.27\$ and the target got achieved at 158.42\$ and the total profit out of the trade was 2573 pips. The third trade was initiated as long at 155.26\$ and the target was at 159.10\$ and the total profit was at 301 pips. The second short was initiated at 159.10\$ and the target got achieved at 152.27\$ and the total profit out of the trade was 683 pips. The conclusion is that out of all trades the GBPJPY gave huge profits and its preferred to invest in this pair based on RSI.

EURUSD

The first buy was initiated at 1.3698\$ at 30 level and the target got achieved at 1.3825\$. The total profit occurred out of the trade was 127 pips. The second short was initiated at 1.3734\$ and the target got achieved at 1.3679\$ and the total profit out of the trade was 55 pips. The third trade was initiated as long at 1.3551\$ and the target was at 1.3802\$ and the total profit was at 251 pips. The fourth short was initiated at 1.3759\$ and the target got achieved at 1.3437\$ and the total profit out of the trade was 142 pips. The conclusion is that out of all trades

the EURUSD occurred with profit and its preferred to invest in this pair based on RSI.

**BETA AND JENSEN’S ALPHA
NZDJPY**

Risk-free Rate (rf)	7.87
Beta	0.06
E(Rp)	7.87
Alpha ratio	7.91

INTERPRETATION

The above table shows the Jensen’s Alpha of NZDJPY for one the beta value was at 0.06. This shows that the value is not moving accordingly to the market and when the market moves one dollar higher the script moves 0.06 cents were no volatility was found in the script. According to the alpha ratio the return out of the investment is at 7.91% per annum which is not lesser than risk free rate of return so it is preferred to invest in this script.

GBPUSD

Risk-free Rate (rf)	7.87
Beta	-0.56
E(Rp)	7.87
Alpha ratio	7.90

INTERPRETATION

The above table shows the Jensen’s Alpha of GBPUSD for one the beta value was at -0.56. This shows that the value is moving negatively accordingly to the market and when the market moves one dollar higher the script moves -0.56 cents were high volatility was found in the script. According to the alpha ratio the return out of the investment is at 7.90% per annum which is not lesser than risk

free rate of return so it is preferred to invest in this script. But its not preferred to invest according to Beta.

GBPJPY

Risk-free Rate (rf)	7.87
Beta	-0.01
E(Rp)	7.87
Alpha ratio	7.92

INTERPRETATION

The above table shows the Jensen’s Alpha of GBPJPY for one the beta value was at -0.01. This shows that the value is moving negatively accordingly to the market and when the market moves one dollar higher the script moves -0.01 cents were no volatility was found in the script. According to the alpha ratio the return out of the investment is at 7.92% per annum which is not lesser than risk free rate of return so it is preferred to invest in this script. But its not preferred to invest according to Beta.

EURUSD

Risk-free Rate (rf)	7.87
Beta	-0.64
E(Rp)	7.87
Alpha ratio	7.89

INTERPRETATION

The above table shows the Jensen’s Alpha of EURUSD for one the beta value was at -0.64. This shows that the value is moving negatively accordingly to the market and when the market moves one dollar higher the script moves -0.64 cents were high volatility was found in the script. According to the alpha ratio the return out of the investment is at 7.89% per annum which is not lesser than risk

free rate of return so it is preferred to invest in this script. But it's not preferred to invest according to Beta.

EURJPY

Risk-free Rate (rf)	7.87
Beta	-0.02
E(Rp)	7.87
Alpha ratio	7.91

INTERPRETATION

The above table shows the Jensen's Alpha of EURJPY for one the beta value was at -0.02. This shows that the value is moving negatively accordingly to the market and when the market moves one dollar higher the script moves -0.02 cents were no volatility was found in the script. According to the alpha ratio the return out of the investment is at 7.91% per annum which is not lesser than risk free rate of return so it is preferred to invest in this script. But it's not preferred to invest according to Beta.

EURCAD

Risk-free Rate (rf)	7.87
Beta	0.50
E(Rp)	7.87
Alpha ratio	7.92

INTERPRETATION

The above table shows the Jensen's Alpha of EURCAD for one the beta value was at 0.50. This shows that the value is moving positively accordingly to the market and when the market moves one dollar higher the script moves 0.56 cents were high volatility was found in the script. According to the alpha ratio the return out of the investment is at 7.92% per annum which is not lesser than risk

free rate of return so it is preferred to invest in this script. It's also preferred to invest according to Beta.

EURAUD

Risk-free Rate (rf)	7.87
Beta	0.17
E(Rp)	7.87
Alpha ratio	7.93

INTERPRETATION

The above table shows the Jensen's Alpha of EURAUD for one the beta value was at 0.17. This shows that the value is moving positively accordingly to the market and when the market moves one dollar higher the script moves 0.17 cents were moderate volatility was found in the script. According to the alpha ratio the return out of the investment is at 7.93% per annum which is not lesser than risk free rate of return so it is preferred to invest in this script. It's also preferred to invest according to Beta.

FINDINGS

- ❖ In EURJPY for one year from the date of issue of the script. The average return was at 0.02 are the return is in positive. But we can invest in this because the value is more than one.
- ❖ In EURCAD for one year from the date of issue of the script. The average return was at 0.00 are the return is in normal and the script was not moving accordingly. Its not preferred to invest in this because the value is more than one.
- ❖ In EURAUD for one year from the date of issue of the script. The average return was at 0.00 are the return is in normal and the script was not moving accordingly. Its not preferred to invest in this because the value is more than one.

- ❖ In CHFJPY the date of issue of the script. The average return was at 0.01 and the return is in normal and the script was not moving accordingly. It's not preferred to invest in this because the value is more than one.
- ❖ According to the RSI in USDJPY the first buy was initiated at 97.12\$ at 30 level and the target got achieved at 90.59\$. The total profit occurred out of the trade was 693 pips. The second short was initiated at 91.89\$ and the target got achieved at 90.72\$ and the total profit out of the trade was 117 pips. The third trade was initiated as long at 91.04\$ and the target was at 92.28\$ and the total profit was at 124 pips. The conclusion is that out of all trades the USDJPY occurred a loss due to a huge loss in a single trade and its not preferred to invest in this pair based on RSI.
- ❖ In CADJPY for one year from the date of issue of the script. The average return was at -0.03 are the return is in negative and the script was not moving accordingly. So Its not preferred to invest in this because the value is more than one.
- ❖ In AUDUSD for one year from the date of issue of the script. The average return was at 0.00 are the return is in normal and the script was not moving accordingly. It's not preferred to invest in this because the value is more than one.
- ❖ In AUDJPY for one year from the date of issue of the script. The average return was at -0.04 are the return was negative and the script was not moving accordingly. It's not preferred to invest in this because the value is more than one.

SUGGESTIONS

- ❖ Based on BHAR it shows that it's not preferred to invest in JPY counters as the volatility of the pairs were low and the in some cross pairs they were moving negatively accordingly to the market. So its preferred to invest in positive buy and hold abnormal return and we can avoid trading in other pairs which gives loss.
- ❖ Based on RSI it's not preferred to invest in USDCAD as the loss was too high and its preferred to invest in USDCHF were it gave a reasonable profit for the investment.

- ❖ Based on Beta value the JPY currency pairs were trading negatively according to USDJPY as the cross currency changes accordingly and it's not preferred to invest based on USDJPY and other pairs gave a reasonable movement with mixed volatility and it preferred to invest in EURCAD as the pair is moving based on its cross pair comparison.
- ❖ Based on Alpha ratio it's not preferred to invest in JPY counters as it was giving return less than the risk free rate of return and its preferred to invest in other scripts as the give higher yield than the risk free rate of return.

CONCLUSION

The conclusion is that 13 cross currency pairs were taken as sample size and Jensen's Alpha, Beta, Relative Strength Index, and Buy and Hold Abnormal Return were used as technical tool for analysis and the conclusion is that it's not preferred to invest in JPY pairs as the volatility and the return are not up to the mark and its preferred to invest in EURCAD as the return was high when compared to other scripts and the market was moving accordingly to its cross currency pair.

References

1. Bernardo Quintanilla García (2012) "The role of technical analysis in the foreign exchange market" *Global journal of business research*, Volume 6, pp.17-22.
2. Fama, E. F. 1970. "Efficient Capital Markets: A Review of Theory and Empirical Work." *The Journal of Finance*. 43: 383-417.
3. Flood, M. D. 1991. "Microstructure Theory and the Foreign Exchange Market." *Review – Federal Reserve Bank of St. Louis*. 73(6): 52-70.
4. Levy, R. A. 1966. "Conceptual Foundations of Technical Analysis." *Financial Analysts Journal*. 22(4): 83-89.
5. Longworth, D. 1981. "Testing the Efficiency of the Canadian-U.S. Exchange Market under the
6. Assumption of No Risk Premium." *The Journal of Finance*. 36(1): 43-49.
7. Parkinson, M. 1980. "The Extreme Value Method for Estimating the Variance of the Rate of Return." *Journal of Business*. 53(1): 61-65.

8. Osborne, M. F. M. 1959. "Brownian Motion in the Stock Market." *Operations Research*, VII (March, April, 1959): 145-73.
9. Taylor, M. P. and H. Allen. 1992. "The Use of Technical Analysis in the Foreign Exchange Market." *Journal of International Money and Finance*. 11: 304-314.