Predicting Currency Moves (A Techno retrospective analysis)

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Abstract
The variation in the value of currency of any country with respect to foreign currencies like US $ is called Currency Fluctuation/Move. This study grasps the perception in regards to the Spot rates and forward rates relationship in different time dimensions and further the productivity with the Foreign exchange markets of Pakistan. The daily based information has been retrieved from State Bank of Pakistan, Business recorder, Yahoo finance and World Bank websites for the period 2001 to 2018 and additionally forward rates are utilized for various time measurements. During the research work the prominent models pertaining to the Price estimation like Balcksholes Merton model , Random Walk model and Efficient market hypothesis have been taken into the consideration The outcome presumes that spot rate Cannot completely mirror all expected data to foresee the future market patterns thus promote the deviation can be limited utilizing the specialized pointers which has been talked about ahead in detail. The Uncertainty and specialized pointers nexus is additionally a piece of an understanding here which is frequently utilized in the foreign exchange markets in Pakistan.
Keywords: Foreign Exchange Markets, Efficient market hypothesis, Black Sholes Merton Model, Random Walk Model, Spot rate and Forward rates.

1.   Introduction:

The foreign exchange market has always been with a vital role in the economy of any country. Based on some components and confirmations it very well may be said that Fiscal strategy and money related approach of Pakistan assumes an essential job in the conversion standard fluctuation.so it very well may be prescribed that at first financial arrangement and fiscal strategy be orchestrated and afterward make a viable connection between both the strategies and the exchange strategies. Viable and smooth running of financial and fiscal approaches are required to lessen swelling and lift up monetary development. Also, the hole between development of arrangement and usage (both in financial and money related) would be required to diminish.

The literature of exchange rate has provided the enough body of knowledge backed by the consensus of eminent scholars and prominent doctors, further leading to answer three basic questions:

1.   What is the efficiency level between Spot rates and Forward rates?

2.   What is the efficiency level of technical indicators in the Foreign exchange market rates? And how they are used?

3.   How the inefficiency of Pakistan Economy is influenced by exchange rates information?

The Objective of this study is to answer these questions empirically by creating the relationship between spot rate and forward rate from different time dimensions based on regression analysis. This research will be based on Pakistan foreign exchange markets and its efficiency. The term "efficiency" means here that traders are using every available information while predicting the market trends and waves regarding the forward exchange

rates, and so then this forward rates will be used to predict future spot rates with the solid and accurate base. And so in this way if the future spot rates will not tally to the forward rates so it will mean that traders are with inefficiency and are not perfect. As it is clear that the determinants of forward exchange rates includes GDP, Interbank rates, Interest rates, Unemployment, technical analysis and market sentiments which will be essential to read and follow while analyzing the market trends and waves if the traders are processing these information successfully so it means that they are running efficiently and if they are going through it so it will mean that they are not on the track to analysing the market efficiently. But here would be just the discussion regarding the Spot rate and forward rates relationship that whether they are getting tally or not and if they have some positive nexus so up to which extent???

Form the consensus of many researchers I would like to mention that Foreign exchange market of any country relies upon a bunch of factors or say determinants, Which include Interest rate, GDP, Unemployment, Political situation etc., but along with all those factors there is always some relationship between the spot rate and forward rates. Which is an essential point here to be brought to the screen? In many research papers I have found the consequences that the forward exchange rate has been the best unbiased predictor of the future spot rate. In further addition I would preferably like to mention that Market and specially the foreign exchange market is manipulated by the market players, Forward and spot rates, speculations and volatility and these terms (Volatility and speculation) and Uncertainty have been resulted to financial crisis many times in the world. But as I mentioned earlier that Forward exchange rate is the best unbiased predictor of the future spot rate so it can more sharply signifies its vitality in the effectiveness of foreign exchange market of Pakistan. Thus, the work is to be carried out to bring more transparent consequences to the front.

2.   Literature Review:

Abreu G, Neves R, Horta   N (2018) states that Evolutionary computation mixed with probabilistic classifiers provide a simple and efficient infrastructure to search and optimize features. The currency exchange market, specifically the EUR/USD, was the dataset in which the proposed architecture was tested. Although the initial objective for this work was to prove that there is a benefit of mixing different areas of ML, to achieve results in an efficient manner, the experiments developed to test this, provide interesting conclusions about the currency exchange market. Although the Naive Bayes rejection classifier already achieved better performance than random guessing, the proposed architecture, which searched and optimized features using a modified GA, proved that it is possible to boost the Naive Bayes classifier accuracy by a considerable amount (from 51,39%, on validation set, to 53,95%, which translates to a significant improvement on the trading system, 0,43% to 10,29% ROI). Model visualization is topic with growing interest on the ML community to detach from black-box models with no interpretability. By making use of t-SNE algorithm it is possible to visualize what type of patterns the Naive Bayes is learning from the input data. This visualization opens the path to future work since it has revealed a lot of local clusters which were not present in the standard technical indicator

default parameters, only in the GA optimized ones. It is possible to conclude that the points where the algorithm is most certain of the price direction are based on mean reversions after a market inefficiency, such as an abnormal price variation in a short amount of time.

Parveen , Khan and Ismail (2012) has concluded that The foreign exchange market (Forex market) plays a vital role in the economy of any country. Inflation is being considered to bring more volatility in exchange rates in country as it play its considerable role to variations in the exchange rate. Due to increased inflation the currency get devalued in the exchange. Inflation has a negative influence on the exchange rate as when inflation goes high it reduce the value of a currency. The second most considerable variable in the exchange rate of a currency is the economic growth, while orders of export and import lies in the third and fourth position.

On the basis of these factors and evidences it can be said that Fiscal policy and monetary policy of Pakistan plays an important role in the exchange rate fluctuation.so it can be recommended that initially fiscal policy and monetary policy be harmonized and then make an effective link between both the policies and the trade

policies. Effective and smooth running of fiscal and monetary policies are required to reduce inflation and boost up economic growth. And the gap between formation of policy and implementation (both in fiscal and monetary) would be required to reduce.

Bashir and All (2014) have concluded that the forex market plays a vital role in the economy of any country. Pakistan foreign exchange market is considered as small as compared to those of emerging economies. So the considerable policy work is to be carried out in order to expand it. After the empirical investigation of Pakistani Rupee against the US dollar-rupee, Swiss franc-rupee, Australian dollar-rupee, yen-rupee, and euro-rupee, using monthly data on spot and forward rates for the period July 2006 to December 2013 the result have been found that the forward exchange rate is a close and unbiased predictor of the future spot exchange rate but it can also be realized that the Spot exchange rate does not reflect all the information available so market player may gain an edge of the volatility speculation because of market inefficiency

Koedijk and Ott (1987) have concluded that foreign exchange markets are organized in a well manner and are with high-volume interactions that encompass the trading activities of many competitive profit-seeking agents. That is, they appear similar in many functional aspects to other (domestic) financial markets so that the hypothesis of efficiency is plausible.

Neely and Weller (2011) have concluded that technical analysis is considered as the familiar and widely used approach to trading in the foreign exchange market. It can be said on the basis of survey evidences that it dominates fundamental analysis at short horizon. The very finding were initially immerged for London market and subsequently have been confirmed to hold in other markets too. Researchers have demonstrated that TTRs(Technical trading rules) were able to generate excess returns over a long period during the 1970s and 1980s. The excess returns to relatively simple rules based on filters or moving averages had disappeared by the early 1990s, but returns to more complex or sophisticated rules have persisted.

Several hypotheses were made that the literature has advanced to explain these observations. There is strong confidence to rule out data mining as an explanation for the early profitability of technical rules. For the profitability of technical analysis to constitute evidence of market inefficiency, one must establish that the profits earned are not simply compensation for risk incurred. A variety of risk adjustment methods have failed to eliminate observed profits. A believer in market efficiency may argue that such tests have omitted some unknown risk factor. That argument, however, is substantially refuted by the decline in the profitability of simple rules over time, essentially to zero. It is more plausible that markets have adapted to progressively reduce profit opportunities, but at a speed that is clearly not consistent with the standard notion of market efficiency.

A proliferation of behavioural models can reproduce the trending seen in foreign exchange markets and show that technical trading can be consistently profitable in certain circumstances. The adaptive market hypothesis provides a promising framework in which such models can be further developed. Its emphasis on behavioural decision rules that depart from the standard rational paradigm, and on learning and evolutionary selection mechanisms, indicates a shift in focus in currency market research and, indeed, in financial markets in general.

Marcelo Sanchez (2005) has concluded that there is a link between exchange rates and interest rates that features prominently in the theoretical and empirical literature on small open economies. This paper revisits this relationship using a simple model that incorporates the role of exchange rate pass-through into domestic prices and distinguishes between cases of expansionary and contractionary depreciations. The model results show that the correlation between exchange rates and interest rates, conditional on an adverse risk premium shock, is negative for expansionary depreciations and positive for contractionary ones. For this type of shock, interest rates are found to be raised to prevent the contractionary effect of depreciation regardless of whether the latter effect is strong or mild. Interest rates are predicted to also rise in response to an adverse net export shock in contractionary depreciation cases, and to be lowered in the case of expansionary ones.

3.   Retrospective Models
3.1 Efficient market Hypotheses and Foreign Exchange markets:

EMH theory which stands for efficient market hypotheses and states that no market is efficient and it is impossible for any trader to beat the market. In foreign exchange market there is always been a strive to beat the market and predict the future market trends. According to the EMH theory the market is always been at fair value.

3.2   Random Walk Model:
The random walk model is widely used in the area of finance. The stock prices or exchange rates (Asset prices) follow a random walk. A common and serious departure from random behavior is called a random walk (non-stationary), since today's stock price is equal to yesterday stock price plus a random shock.
There are two types of random walks
1.   Random walk without drift (no constant or intercept)
2.   Random walk with drift (with a constant term)

3.3   Black Sholes Merton Model:
The Black Scholes model, also known as the Black-Scholes-Merton model, is a model of price variation over time of financial instruments such as stocks that can, among other things, be used to determine the price of a European call option. The model assumes the price of heavily traded assets follows a geometric Brownian motion with constant drift and volatility. When applied to a stock option, the model incorporates the constant price variation of the stock, the time value of money, the option's strike price, and the time to the option's expiry.

4.   Methodology:
4.1 Research Design:
As discussed above, here in this research the secondary data have been collected and the analysis have been done upon that so it can shortly be said that it will be a secondary data analysis. In other words, it can also be said that there would be an observatory situation too. In this case as it has been already mentioned that there would be the intervention of relationship from several dimensions, having few majors in front, and there would be an   in depth analysis of that with respect to Foreign exchange rates and Forex Market efficiency in Pakistan so all it would be necessary to do will be to collect the data regarding that very determinants and so as regarding the efficiency of them and concerning… So all of those data have been collected from several websites where ever there will be availability and feasibility, but major focus has been on SBP website, B recorder, Yahoo finance, World bank website for data retrieving.

4.2 Sampling:
In this research the population is the whole data regarding Foreign exchange rates which are the spot rates and forward rates on different time spans like weekly basis monthly basis, two monthly basis three monthly basis up to one etc., and so our sample has been the data from 2000 to 2017.It means we have the Time series data. Our sampling method is the *simple random sampling*.

4.3 Econometric Model:
The econometric model for the Spot exchange rate and the forward exchange rate based upon every time span which has been used is the Regression model which is given as below.

$$FR_{t+1} = SR_{t+1} + E_t \text{ ----------------- } (1)$$

Where FR_{t+1} is the expected exchange rate which is dependent variable in $t + 1$ period, and E_t is the error term at time period t. SR_{t+1} is the independent variable and is actual spot exchange rate in terms of the domestic currency unit per unit of foreign currency in $t + 1$ period.

Furthermore the econometric model has been used for every time series and so there has been be a statistical test upon that for the analysis. For example there is econometric model for the Weekly forward rate as below;

$$FRW_{t+1} = \alpha 1 + \alpha 2 SR_{t+1} + E_t$$

So further more there has been the interpretation for the statistical test run upon that that what will be the analysis on the basis of those tests.

4.4 Variables:

There would be a deal with the couples of variables out of which few are expressing here.

1.   Spot rates: The spot rate is considered the current exchange rate.

2.   Forward rate: Forward rates means the rate which is expected at some future date.

3.   Forward weekly: The forward rate which is expected after one week.

4.   Forward monthly: The forward rate which is expected after one month.

5.   Forward Two months: The forward rate which is expected after two months.

6.   Forward three months: The forward rate which is expected after three months.

7.   Forward four months: The forward rate which is expected after four months.

8.   Forward five months: The forward rate which is expected after five months.

9.   Forward six months: The forward rate which is expected after six months.

10.   Forward 12 months: The forward rate which is expected after 12 months.

Beside it there would also be the discussion in detail regarding the Technical indicators, with respect to phenomenological approach, to elaborate how purely to predict the market trends in trading platform.

In the mentioned variables the dependent will be forward foreign exchange rates, while the independent variables will be Spot rates (With respect to Forward rates).

5. Empirical Analysis:

The analysis will be done for each currency here on the basis of $\alpha 1$ and $\alpha 2$. The analysis will be on the following basis.

5.1 $\alpha 1$ equal to 0 means the spot rate do not predict exactly the forward exchange rate and the market players may take the edge of the information. It means that the $\alpha 1$ is 0 so it do not predict exactly the forward market rate but it can be said it can give a clue regarding the upcoming market trend that on which side the market will go , either it will be bearish or it will go bullish. So it can easily be said that if $\alpha 1$ is equal to 0 it may over or under predict the forward market rate.

5.2 Another situation is that if α 2 equal to Unity l means that the spot rate exactly predict the forward market rate. So we can say that our α 2 is equal to 1 so the spot rate may exactly give us the right information regarding the forward market rate and so the market players can take a beautiful edge of the information to make the profit.

5.3

Market effeciency Test Forward Weekly rate Estimated Equation: FRWt+1= α1 + α2SRt+1 + Et

Currency	α1	α2	DW	R2
Australian dollar (AUD)	0.000217	-6.52E-05	0.144816	0.000026
Swiss franc (CHF)	0.000549	-3.45E-05	0.160323	0.000009
Euro (EUR)	0.000447	-5.46E-05	0.132824	0.00002
US dollar (USD)	0.000444	0.011627	0.167569	0.001189
Great Britian Pound (GBP)	0.000366	-6.64E-05	0.108632	0.000029

In the above table it can be seen that there are different currencies given in the table. And every currency have its own derived value for **α1**, **α2**, **DW and R₂**.

For the AUD, CHF, EUR, USD and GBP we have **α1** values in which neither of all have the value equal to 0 nor so we can see that every currency have Alpha1 value of nearer to 0. If it is looked so the values are0.000217, 0.000549, 0.000447, 0.000444, and 0.000366, which simply depicts that the Spot rate will not give us the exact situation of the forward market rate. If the values were exactly 0 so then it could be said that spot rate will over or under-predict the forward market rate. But it can be seen that the values are not exactly equal to 0 so it cannot be said that spot rate will give the nearer information regarding the forward market rate. So at conclusion it can be said that the Markets are not efficient in the weekly forward situation.

On the other hand if it is looked to the Alpha 2 values of All currencies so it can found that no currency has the Value equal to Unity which is the second indication towards the market inefficiency. AUD, CHF, EUR, USD and GBP have the values as -6.52E-05, -3.45E-05, -

5.46E-05, 0.011627 and -6.64E-05, All of the values are not equal to unity and it can easily be said that the spot rates do not give the right and exact information regarding the forward market rate and at conclusion it can be said that the Markets are not efficient on the weekly basis in the forward rate situation.

Now, let's have a glance over another Table of Forward one Month markets rates.

5.4

Market efficiency Test Spot rate and Forward Monthly rate

Estimated Equation: FRMt+1= α1 + α2SRt+1 + Et

Currency	α1	α2	DW	R2
Australian dollar (AUD)	0.000917	-0.00017	0.03069	0.000012
Swiss franc (CHF)	0.002384	4.07E-05	0.032994	0.000001
Euro (EUR)	0.001928	-0.0001	0.027334	0.000005
US dollar (USD)	0.001915	0.047288	0.034322	0.001406
Great Britian Pound (GBP)	0.001576	-0.00011	0.022301	0.000005

In the above table it can be seen that there are different currencies given in the table. And every currency has its own derived value for **α1**, **α2**, **DW and R₂**.

For the AUD, CHF, EUR, USD and GBP we have **α1** values in which neither of all have the value equal to 0 nor so we can see that every currency have Alpha1 value of nearer to 0. If it is looked so the values are0.000917, 0.002384, 0.001928, 0.001915, and 0.001576, which simply depicts that the Spot rate will not give us the exact situation of the forward market rate. If the values were exactly 0 so then it could be said that spot rate will over or under-predict the forward market rate. But it can be seen that the values are not exactly equal to 0 so it cannot be said that spot rate will give the nearer information regarding the forward market rate. So at conclusion it can be said that the Markets are not efficient in the weekly forward situation.

On the other hand if it is looked to the Alpha 2 values of all currencies so it can found that no currency has the Value equal to Unity which is the second indication towards the market inefficiency. AUD, CHF, EUR, USD and GBP have the values as -0.00017, 4.07E-05,

-0.0001, 0.047288 and -0.00011, All of the values are not equal to unity and it can easily be said that the spot rates do not give the right and exact information regarding the forward market rate and at conclusion it can be said that the Markets are not efficient on the one-month basis in the forward rate situation.

Here is another table of the mentioned currencies, having two months forward market rates, which have also the same result as the earlier one. Below is the table

5.5

Market efficiency Test Spot rate and Forward 2 Months rate

Estimated Equation: $FR2Mt+1 = \alpha1 + \alpha2 SRt+1 + Et$

Currency	α1	α2	DW	R2
Australian dollar (AUD)	0.001848	-0.000191	0.01373	0.000004
Swiss franc (CHF)	0.004748	9.68E-05	0.016082	0.000002
Euro (EUR)	0.003842	-0.000201	0.012773	0.000005
US dollar (USD)	0.003821	0.081908	0.016583	0.001245
Great Britian Pound (GBP)	0.003145	-0.000147	0.010189	0.000003

In the above table it can be seen that there are different currencies given in the table. And every currency have its own derived and specific value for **α1, α2, DW and R2.**

For the AUD, CHF, EUR, USD and GBP we have **α1** values in which neither of all have the value equal to 0 nor so we can see that every currency have Alpha1 value of nearer to 0. If it is looked so the values are 0.002819, 0.00712, 0.005772, 0.005737, and 0.004737, which simply depicts that the Spot rate will not give us the exact situation of the forward market rate. If the values were exactly 0 so then it could be said that spot rate will over or under-predict the forward market rate. But it can be seen that the values are not exactly equal to 0 so it cannot be said that spot rate will give the nearer information regarding the forward market rate. So at conclusion it can be said that the Markets are not efficient in the weekly forward situation.

On the other hand if it is looked to the Alpha 2 values of all currencies so it can found that no currency has the Value equal to Unity which is the second indication towards the market inefficiency. AUD, CHF, EUR, USD and GBP have the values as 3.87E-05, 0.000521,

5.09E-05, 0.111982and 8.60E-05, All of the values are not equal to unity and it can easily be said that the spot rates do not give the right and exact information regarding the forward market rate and at conclusion it can be said that the Markets are not efficient on the two months basis in the forward rate situation.

Along with the very findings I would like to mention that as we know from earlier EMH that there are also some Macroeconomic and accounting indicators that helps in giving the idea regarding the upcoming market trends. So I would discuss the detail regarding those Technical indicators that are helpful in giving the idea regarding the upcoming market trends.

Hence we have some graphical illustrations for better understanding of movement trend of each currency, which are given as below.

5.6
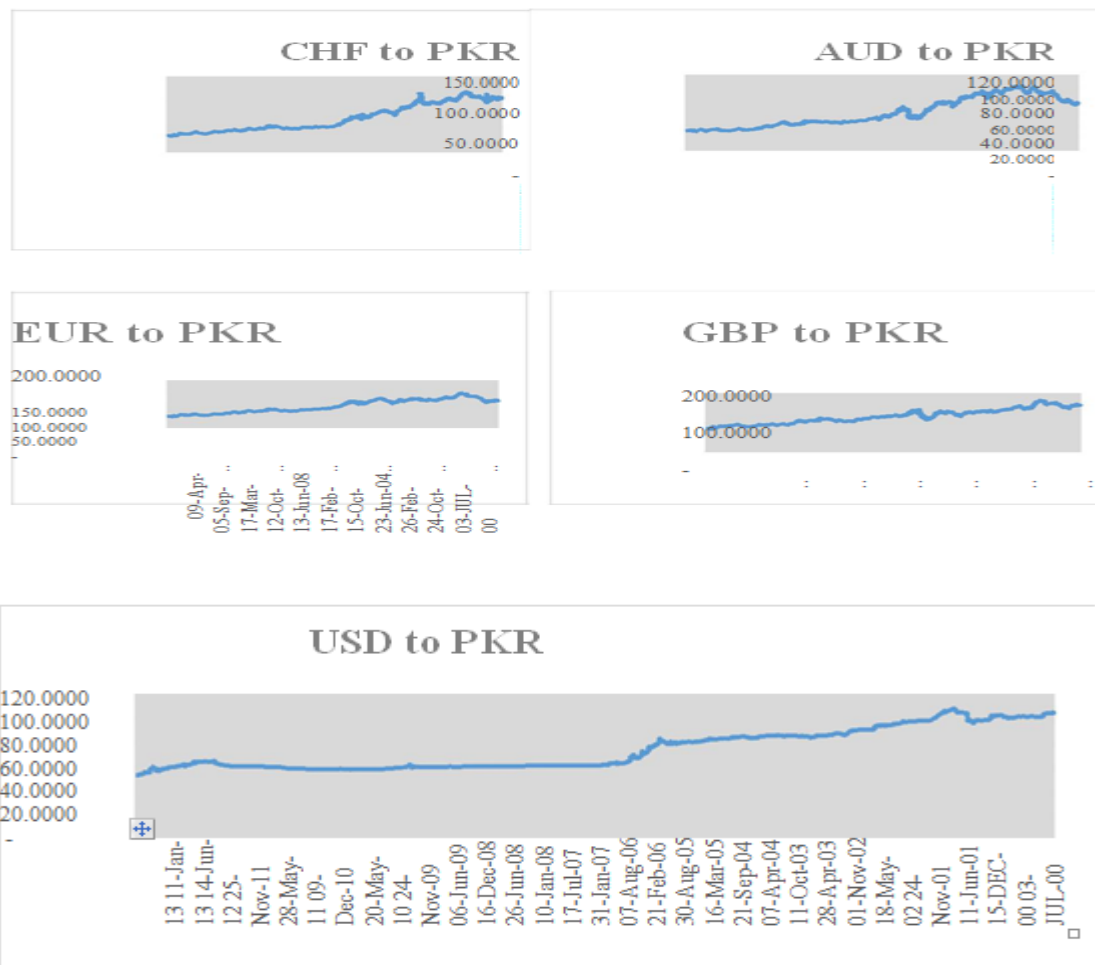
6.   Technical Analysis:

So far now as It has been discussed that no markets are efficient and there is some sort of deviation in the predictions and so that deviation is being covered by technical analysis.

Technical analysis is the process of evaluating the securities by statistics that's been created by market activities with accounting and mathematical information. In the technical analysis generally the past behavior is used to predict the future market movements. Normally in the technical analysis the analysts use the charts and lines etc.

Following are some technical indicators that are most commonly used in the technical platforms.

6.1 Support and resistance lines:

Support and resistance is having vital role in- the forex trading since it has come into being, and is widely used in the platform of trading in the world of Foreign exchange markets. Despite of the fact that everyone has a separate conception of having measurement of support and resistance in the forex.

Let's have a glance first at the fundamentals of support and resistance lines.

6.1.1(Note: Retrieved from meta trader 2001-2007, reprinted with permission.)

Let's have a look at the diagram above. As it can be seen the Zigzag pattern is approaching upward, the bull market. When the currency prices goes up and then retraces so the highest point where the prices candles reaches are said to be the Resistance lines. Then as the market continues to go up and makes the lowest level by dropping repeatedly so we can call that lowest
level as the support line. All the support and resistance line can be divided into three points like first support line 2nd support line and 3ed support line and similarly the resistance line too. So the most hard to break is the 3rd line which is very hardly broken but if it is broken then market catches a free hand to reach at either the level. So we can concisely say that Support and resistance is a common jargon for chart areas which is so difficult to break but if it is broken then the market take the free hand to reach in either the point.

Prior to say anything regarding its explanation it is very easy to find out both the levels but as it is found out the support and resistance can appear in the several forms and it is much harder to have a grip on it than it initially appears.
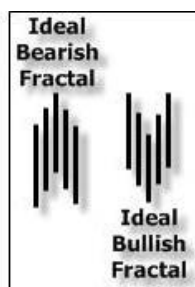
6.2 Fractals:

The second most important and most widely used indicator in the forex platforms is the fractal, which is very important to use. Fractals usually convert huge trends to simplest predictable reversal patterns. While looking to the fractals in a mathematical sense it be taken as chaos theory and abstract mathematics because these theories are applied in the market situation. The fractals are taken by some investors in more literal sense. In the recurring patterns they can forecast the reversing points in the mega and anarchic situations.

Basic fractals contain five bars or say a little more. Following are the rules for identifying the fractals.

☐   A downward or bearish reversal happens when at the middle there occurs the highest of high and on each side two lower highs.

☐   An upward or bullish reversal happens when in the middle there occurs the lowest low and two higher lows on each side.

The fractals shown in the illustration are two examples of perfect pattern.

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The clear and simple drawback of the fractal is that it is lagging indicator. It means fractals cannot be drawn until and unless the traders are two days into the reversals. While this is also true that most often and important reversing points lasts many bars so most of the trend will be intact. As it can be seen in the below picture.

6.3 Moving Average Convergence Divergence (MACD):

Moving average convergence divergence is the third indicator that is widely used in the platforms of forex trading .MACD was invented by Gerald appeal in 1979 and has been remained the most popular technical indicator on platforms of trading. The MACD indicator is appreciated in the world of trading because of its simplicity and flexibility and this is just because of its usage either as Trend or momentum indicator.

As it is explained below that Trading divergence is very much familiar and popular way to use the histogram of MACD but unfortunately the divergence trade is not accurate as it can be realize that it fails more than it succeeds. Now to observe and explore that what may be more logical method and technique of trading the MACD divergence, It's been focused at the usage of MACD histogram for both the signals of trade entry as well as exit, instead of only entry, and further how forex traders take the advantage of such useful indicator.

The logic behind Moving average convergence divergence is simply straight forward. It calculates the difference between 26 day and 12day exponential moving averages EMA. Based on these two moving averages upon which the MACD is based, the 12 day EMA exponential moving average is the faster one while the other 26 day EMA is a bit slower one. In their value calculation both moving averages uses the prices which are closing prices of whatever period is measured. On the other hand on the chart the 9 day Exponential moving average EMA itself plotted as well and it can also be taken as an indication for buying and selling as well. The Moving average convergence divergence MACD produces a bullish signal and an indication to buy when it moves above it 9 day EMA and it send also the selling indication when it moves below its 9 day EMA. For better understanding consider the following illustration.

6.3.1 (Note: Retrieved from Yahoo Finance website)

The usage of MACD histogram is the main cause why most traders depend on this indicator to measure momentum because it responds to the speed of movement of the price. In fact most traders use the MACD indicator more frequently judge the strength of price movement rather than to determine the direction of a trend.

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6.3.2

(Note: Retrieved from Investopedia web site copyright 2006, reprinted with permission.)

As it can be seen that the very initial drawback of this indicator to the current system is the large swing that occurs. For example the latest fractal had a drawdown of over one hundred pips and still it has not shown the turning or exit point .However there are many other techniques too that can be applied in the Junction with fractals to produce profitable trading

7. Conclusion:

Foreign exchange market is always considered to be the most intricate platform comparatively. The complications and deviation may result in many of the distinctive perspectives in the economy. Our empirical work has been resulted with smarter coincidence with the EMH Theory and Random Walk model which states that no market is efficient. No one can exactly predict the Future market trends. However there is somehow a slight contradiction towards Blacksholes Merton Model. The word "Slight" means that perfect predictions or estimation of price cannot be done while technical and fundamental indicators can be used to minimize the uncertainty. There are always deviations in the predictions and those deviations are being covered by the technical analysis up to great extent. Our findings on PKR in comparison to USD, AUD, GBP, and EURO & CHF concluded that the market was never found certain about the future trends. The Spot rate and forward rate nexus has always remain intricate and uncertain which is recovered most often by technical analysis up to great extent. Like we have discussed about the technical indicators which are support and resistance lines, fractals and Moving average convergence divergence (MACD), these indicators are most often used in the trading platforms which have always been minimized the uncertainty level about the predicting the forward rates and future trends.

References:
  i.   Abreu G, Neves R, Horta N (2018) Currency exchange prediction using machine learning
   a.   genetic algorithms and technical analysis, Instituto de Telecomunica_c~oes, Instituto Superior T_ecnico, University of Lisbon, Lisbon,
   b.   Portugal
 ii.   Afshan G, Batul T (2014) "Relationship among Exchange rate, Trade, Interest Rate and Inflation in Pakistan & India: A time series modeling approach" International Researchers Volume No.3 Issue No.3
iii.   Bashir, R. Shakir, R. Ashfaq, B. and Hassan,A (2014) "The Efficiency of Foreign Exchange Markets in Pakistan:" An Empirical Analysis. The Lahore Journal of Economics
 iv.   Batten D S and Thornton D L (1985) "The Discount Rate, Interest Rates and Foreign Exchange Rates: An Analysis with Daily Data"
  v.   Castro F D and Novales A (2003) "The Joint Dynamics of Spot & Forward exchange rates"
 vi.   Chakrabarti R & Scholnick B (2002) "Exchange Rate Expectations and FDI Flows"
vii.   Fama E F (2003) "Forward and Spot Exchange Rates" Journal of Monet. Economics 14 (1984) 319=338. North-Holland
viii.   Koedijk, KG and OttM (1987) "Risk Aversion, Efficient Markets and the Forward Exchange Rate" Federal Reserve Bank of St. Louis
 ix.   Neely, CJ. and Weller,PA (2011) "Working paper on Technical Analysis in the Foreign Exchange Market." Federal Reserve Bank of St. Louis
  x.   Neely C J (2002) "Technical Analysis in the Foreign Exchange Market: A Layman's Guide" Gregory L. White Wall Street Journal
 xi.   Osler C.L (2002) "Currency Orders and Exchange Rate Dynamics: An Explanation for the Predictive Success of Technical Analysis"
xii.   Oliver W.W (2013) "The Effect of foreign exchange rate fluctuations on horticultural export earnings."
xiii.   Osler C L (2008) "Foreign Exchange Microstructure a survey of the empirical literature"

xiv.   *Raithatha M (2012) "A Conceptual Study On Fluctuation of Rupee in Relation to Dollar" ZENITH International Journal of Business Economics & Management Research*

xv.   *Shabana, P ,Khan,AQ. ,Ismail M .(2012)"Analysis of the factors affecting exchange rates variability in Pakistan" Academic Research International VolumeNo2*

xvi.   *Sanchez M (2005) "The Link between interest rates and Exchange rates", Do contractionary depreciation make a difference? European Central Bank Working Paper Series No 548*

xvii.   *Twarowska K & Kakol M (2014) "Analysis of factors affecting fluctuations in Exchange Rates"*