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The Use of Latin Alphabet to Create Trading Technique in Forex Trading

[1]Emilia landa Shikomba, [2]*Elias Eizabeth

[1]*Chongqing University, China*
[2]*University of Namibia, Namibia*

A B S T R A C T

This paper aims to emphasizing the prediction of specific time points for intra-day traders in the forex market using Latin alphabets and the crucial role of time cycles in trading within the financial market. Time cycle trading, as demonstrated in this study, can yield significant profits for investors by effectively predicting trend continuations or reversals. While there are limited studies on intra-day trading using time cycles, this research employs quantitative and thoughtful methods to identify specific hours within the Latin alphabet. Key findings reveal that 04h00 and 18h00 emerge as pivotal hours, acting as support and resistance levels for identifying trend reversals and continuations. Consequently, this study suggests that human investors, rather than relying solely on automated systems, can make informed short-term buying or selling decisions based on the high and low prices during these specific hours, provided they adhere to the established rules governing resistance and support.

INTRODUCTION

In the forex market, predicting the best entry and exit points when trading in financial markets poses a challenge for investors, making it a vital area of research (Nobre & Neves, 2019). This paper introduces an approach grounded in the Latin alphabetic , aimed at forecasting precise entry and exit points based on specific time intervals, particularly for intra-day trading. It is essential to recognize that these specific time intervals also serve as critical indicators of support and resistance within the market, helping to identify both trend reversals and continuations. Support and resistance, integral components of technical analysis, have long been a subject of extensive debate regarding their profitability (Jin, 2021). Notably, forex market charts often display prices on the y-axis and time on the x-axis, a fundamental reference point for most financial practitioners when making trade decisions. Technical analysis holds greater significance than fundamental analysis, a viewpoint favored by a majority of financial practitioners(Menkhoff, 2010).

Online platforms provide valuable insights for investors by offering a graphical representation of price fluctuations over time. This system allows traders to view past data for specific times and make forecasts based on specific future dates (McMahon & Alsing, 2005). Furthermore, certain price reactions occur at specific times, as evidenced by research from Marisch (1990), who found that time dictates when trending prices should react at specific price points. Time cycle trading, which has been in use since Gann created rules for predicting reversals or continuations of trends based on time periods, underscores the significance of time in financial markets. Gann's rules, as highlighted by Aston (1999) and Droke (2001), indicate a fundamental relationship between price and time, relying on basic mathematical laws and specific time cycles.The application of mathematical laws is not limited to Gann's work. Fibonacci sequences, rooted in the ancient golden section, have a positive relationship with predicting financial market movements, as demonstrated by MacLean (2005). Moreover, Zhou, Li, and Wang (2021) assert that human behavior in financial markets adheres to the laws of nature and operates within mathematical laws. This reinforces the notion that time and mathematical principles play a pivotal role in shaping economic activities within the financial market.

Individual traders have access to real-time financial information and can create employment, increase government tax revenues, and reduce poverty (Ye, Pu, & Xiong, 2022). This increase in individual participation in financial markets has positive effects on social welfare. In most cases, retail traders utilize technical analysis to predict price movement in the forex market (Menkhoff, 2010; Vanstone, Hahn, & Finnie, 2012). The chartist perspective suggests that financial market prices encapsulate all relevant information, including fundamentalist viewpoints (Jenkins, 1996; M. P. Taylor & Allen, 1992). Therefore, past data shows patterns repeating over time that are useful to forecast price movements, with past market activity predicting future activity (Saettele, 2021; M. P. Taylor & Allen, 1992). Equally important, chart patterns identify a continuation or reversal in a trend (Gavrilovic & Zimonjic, 2017). However, challenges in pattern recognition and interpretation, such as ambiguity, overfitting, and limitations in capturing complex market dynamics, have been noted by (M. P. Taylor & Allen, 1992).

Price behavior in the market is a crucial factor to comprehend, as it plays a role in the complex market dynamics. According to MacLean (2005), understanding price behavior is essential because it serves as a natural point of interaction between buyers and sellers, highlighting the significance of price in market analysis. This importance is further emphasized by Aston (1999), who delves into the intricate relationship between price action, support,

and resistance, elucidating how these elements manifest both in terms of price movement and the dimension of time.Support and resistance levels, as elucidated by Elder (2014) and Pring (2021), are fundamental aspects of market analysis. When the price approaches a support level, traders anticipate a potential rebound or an increase in price. Conversely, approaching a resistance level often leads to expectations of a price decrease or a reversal in the market direction. Technical analysis offers a practical framework for decision-making that is accessible to individuals without formal financial training.Therefore, the development of profitable trading strategies, utilizing both existing technical indicators and the creation of new ones, assumes paramount importance for investors (Azoff, 1994; Cheng, Chen, & Wei, 2010; Chi, Peng, Wu, & Yu, 2003; Chiarella, He, & Hommes, 2006; Nison, 1994; N. Taylor, 2014). We emphasize the central role of price behavior and support/resistance in market analysis, setting the stage for the discussion on the importance of technical analysis and trading strategy development.

LITERATURE REVIEW

The prediction of specific time intra-day market movements is a topic that has received scant attention in the literature. Previous research by Evans, Pappas, and Xhafa in 2013 highlighted the lack of studies in this area, as most research has primarily concentrated on daily, weekly, or monthly predictions. To address this gap, we adopted a novel approach inspired by Ancient Latin alphabets, as provided by Ager (2023). Our method aimed to identify specific hours within the intra-day market for prediction purposes, with a focus on leveraging these hours as support and resistance levels for trade entry and exit, as well as trend analysis. To validate our approach, we conducted experiments on the IFX Brokers online platform and analyzed the results.Drawing on the wisdom of Plato, who asserted that "everything is number," (Lippitsch & Draxler).We assigned numerical values to hours based on the Latin alphabet. Building on this numerical representation, we were inspired by Borcard et al.'s 2018 perspective on how symbols and numbers can effectively facilitate the exploration of data, enabling researchers to discern connections, patterns, and the development of new theories while arriving at logical conclusions.Furthermore, Islam, Hossain, Rahman, Hossain, and Andersson in 2020 proposed that the analysis of patterns embedded in language can provide profound insights into one's surroundings. Additionally, Pennick in 1992 noted that the Latin alphabet embodies a metaphysical perspective of reality, encapsulating inherent geometrical patterns in the world. It is noteworthy that the Latin alphabet's left-to-right writing direction holds significant value and relevance even in the modern era, as emphasized by Wallace in 2011.

Decoding the emerging patterns in the Latin alphabets when assigned hours from left to right enables us to unravel the concealed dynamics that mold currency exchange rates. Therefore, the existing research still has room for expansion and studying time cycle trading for intra-day trading, which is worth further exploration. Previous research on profitability of technical analysis in the financial markets has been a subject of much debate and research. Contradictory findings have also been reported. (Lee, Gleason, & Mathur, 2001) examined 13 Latin American currencies and found that technical rules were profitable for four currencies but not for the other. This discrepancy highlights the lack of consistency in the profitability of technical analysis across different markets and currency pairs.

On the other hand, a study conducted by (Alanazi & Alanazi, 2020) came to the conclusion that using the piercing line and dark cloud cover patterns can achieve a remarkable 600% profit. Similarly, (Vajda, 2014) investigated the profitability of the Moving Average Convergence Divergence (MACD) indicator in the Forex market. The author reported favorable profit results, especially at the H1 timeframe, and emphasized that stop loss orders were not necessary, although (Zarrabi, Snaith, & Coakley, 2017) indicates that stop loss is a way of protecting profit and minimizing losses.

Furthermore, (Evans et al., 2013) indicate that solving the problem of whether the market is going up or down is central to predicting and making a profit. The study predicts intraday trading of forex using Feed Forward Neural Networks with Back-Propagation architecture to identify repeatable patterns and develop a forecasting model. The findings indicate that intraday trading can be quite profitable.

Profitable trading using time cycles, as demonstrated by various authors, reveals a compelling argument for its effectiveness. According to Goeyardi (2021), the market exhibits repetitive cycles that can be precisely timed and predicted through the utilization of financial astrology and Fibonacci analysis. Employing explanatory and descriptive methods, Goeyardi's study delved into determining the reversal dates of the Jakarta Composite Index and the future price of Gold from 2008 to 2017, establishing a correlation between lunar phases and gold price reversals. Furthermore, Lingaraja, Paul, and Selvam (2019) explored the relationship between lunar phases and the Indian stock market, discovering that during new moon phases, investors tend to increase profits and market volatility surges, indicating a clear impact of lunar phases on investment behaviors.

Mohamadi and Aliabadi (2022) examined the relationship between the moon's rotation and position in the sky and its influence on financial markets. Their study revealed that events such as new and full moons, as well as first and third squares, amplify market volatility. Zhou et al. (2021) focused on the 24 solar terms of ancient Chinese wisdom to develop trading rules centered around specific time points within the Chinese stock market's time cycle. They found that longer solar terms signal stock index trend reversals, while shorter ones are more suitable for short-term and medium-term investors focused on trading rather than long-term investment, ultimately leading to increased profits. This growing body of evidence emphasizes the significance of time as a crucial factor in understanding financial markets, offering predictive value beyond traditional analyses of complex economic and social factors, ultimately contributing to stability and reducing irregular fluctuations in the market.

METHODOLOGY

The Latin alphabets used in this illustration, which represents the assigning of respective clock hours progressing from left to right, are from (Ager, 2023) see at https://omniglot.com/writing/latin.htm . To clarify, we will consider 21 alphabets for this purpose, as their reliable dating can be traced back to the seventh and sixth centuries, as pointed out by (Wallace, 2011). Figure 1 depicts a sketch created using Microsoft Paint to illustrate this assignment.

To construct the sketch, we proceed as follows:

Draw a line segment connecting points 1 and 7. Take the midpoint of this line segment, which corresponds to point 4. Draw a line segment connecting points 15 and 21. Take the midpoint of this line segment, which corresponds to point 18. Construct a line segment connecting points 4 and 18. Draw a line segment connecting points 1 and 15, as well as a line segment connecting points 7 and 21. Draw a diagonal line segment connecting points 7 and 18, as well as a diagonal line segment connecting points 21 and 4. Finally, draw another diagonal line segment connecting points 18 and 1, as well as a diagonal line segment connecting points 4 and 15.

To create the desired geometric figure, begin by drawing diagonal line segments connecting points 7 and 18, and points 21 and 4. Next, draw another diagonal line segment connectingpoints 18 and 1, as well as a diagonal line segment connecting points 4 and 15. Afterward, construct a line segment connecting points 1 and 7. Take the midpoint of this line segment, which corresponds to point 4. Now, draw a line segment connecting points 15 and 21. Take the midpoint of this line segment, which corresponds to point 18. Finally, complete the figure by drawing line segments connecting points 4 and 18, as well as points 1 and 15, and points 7 and 21.
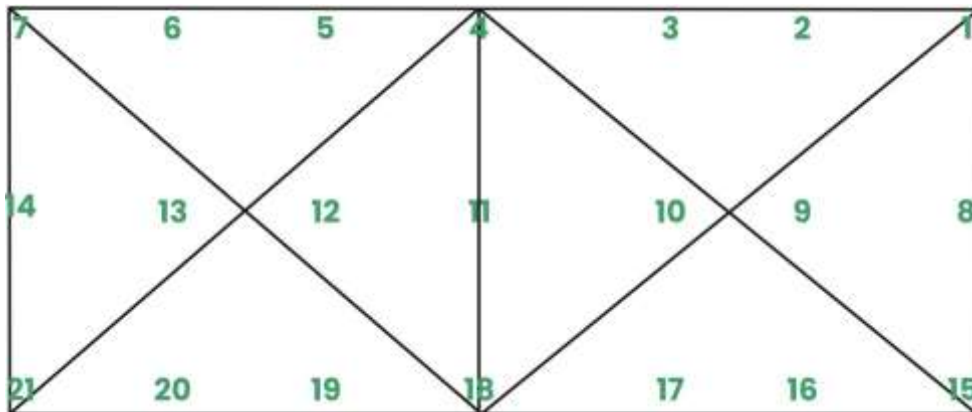

Figure 1. Number representing Latin alphabets (authors drawing)

In this study, we present a specific time point trading model designed for high frequency traders who aim to speculate on small intra-day price fluctuations in the foreign exchange market, particularly focusing on the three most traded currency pairs: GBP/USD, EUR/GBP, and EUR/USD. Our approach leverages candlestick chart analysis to predict support and resistance levels, allowing us to make short-term buy or sell decisions. It's essential to note that the foreign exchange market exhibits non-random distribution (Evans et al., 2013), making precise timing crucial for success. To achieve this, we employed hourly timeframes to pinpoint potential market trend direction indicators within the candlestick charts' high and low values (Gavrilovic & Zimonjic, 2017).

This research draws inspiration from time cycle trading strategies, as advocated by Gann (2009) and Zhou et al. (2021), which seek to predict turning points and trend reversals in market prices. Given the diverse participants in foreign exchange markets, including high frequency traders, long-term investors, and corporations (Aldridge, 2013), our trading model is tailored specifically for high frequency traders. This enables them to capitalize on short-term market movements and potentially conclude their trades before the end of the trading day.

Our methodology incorporates an approach inspired by ancient practices, utilizing Latin alphabets in a novel mathematical context. By assigning numerical values to these alphabets and reading them from left to right, we aim to identify patterns and specific time points that could inform our forex trading decisions. This integration of historical practices underscores the enduring relevance of ancient knowledge in our modern daily lives.

Results

Figure 1 presents the construction of the points 4 and 18 as the midpoints of line segments connecting certain points on the figure. These midpoints have mathematical significance and contribute to the overall structure of Figure 1. The midpoint of a line segment is a point that divides the segment into two equal parts, leading to specific high and lower prices every trading day. In this case, the point 4 divides the line segment connecting points 1 and 7 into two equal parts, and the point 18 does the same for the line segment connecting points 14 and 21. Therefore, by using the previous day's 4h00 and 18h00 prices as potential support and resistance levels, we can determine reversal and continuation points on the trend to make a profit in the market. Additionally, it's worth noting that right triangles are also formed at these midpoint locations.

In their 2017 work, D'Angelo and Grimaldi point out that symmetrical triangles,represent support and resistance in financial analysis. Additionally, Gavrilovic and Zimonjic (2017) highlight how triangles can signal either a continuation or reversal in trends. Symmetry, a fundamental mathematical concept, plays a crucial role in connecting elements within the figure (Hargittai & Hargittai, 1994).Incorporating midpoints into the construction, we ensure that the lines and diagonals within Figure 1 are evenly distributed and balanced. Notably, midpoints such as 4 and 18 serve as key reference points for determining the positioning of other lines and diagonals in the figure. For instance, the line segment connecting points 4 and 18 forms a central axis

that divides the figure into two equal halves. This central axis intersects with diagonal lines connecting points 7 and 18, 21 and 4, as well as 18 and 1, and 4 and 15, further enhancing the geometric structure of Figure 1.Through a careful examination of the relationships between letters and the patterns they form, hidden connections among the Latin alphabet used in forex markets can be discovered.

In Figure 2, dated July 12, 2023, we observe the GBPUSD chart, with lines drawn at the low and high prices of the candlestick at 04h00 and 18h00, respectively, serving as resistance and support levels. The key takeaway is that the low price at 18h00 acted as support, potentially leading to profitable trades for investors who entered the market after that time. Furthermore, the high price at 18h00 which is a resistance eventually broke, transforming into support, and this shift is a significant factor contributing to the market's upward trend. It's worth noting that this concept, where support becomes resistance and vice versa when broken, is well-explained by Elder (2014) and Pring (2021).

Considering these observations, it's crucial to anticipate market reversals, particularly since the low price of 04h00 has been breached. Figure 2, displaying EURUSD, can be interpreted in the same context as GBPUSD, applying the rules governing resistance and support. Moving on to Figure 3, which illustrates EURGBY, it is evident that the high price at 04h00 represents a broken resistance level, suggesting that the previous support will likely become the new resistance .

Fig. 2 - (a) first picture; (b) second picture.

DISCUSSION

There is a relationship between assign hours numbers to Latin alphabets and the forex markets. This relationship prompts us to identify specific hours that serve as midpoints for the hours assigned to Latin alphabets. In this context, it's worth noting that, as suggested by Lippitsch & Draxler, everything can be represented by numbers.This study focuses into the significance of time points, particularly 04:00 and 18:00, in predicting trend reversals and continuations in the forex market. These specific time points act as crucial support and resistance levels in the market, utilizing the high and low prices at those times. It's important to emphasize that this analysis is based on candlestick chart patterns, as described by Gavrilovic & Zimonjic in 2017. Therefore, the element of time holds equal importance to that of price, as specific times yield specific prices. This perspective aligns with the notion that ancient practices like time cycles have notable connections with financial markets, as suggested by Droke (2001), Gann (2009), Lingaraja et al. (2019), MacLean (2005), Marisch (1990), and Zhou et al. (2021).

Hourly charts are vital due to their ability to reveal intricate patterns within each day, including corrective waves. While it's true that the Latin alphabet is primarily a tool for language and lacks inherent numerical or time-related properties, it's important to recognize that Latin alphabets have historically been employed in mathematical contexts. Therefore, the assignment of hours to the Latin alphabet is not solely reliant on statistical significance but also encompasses geometric considerations within mathematics.

In conclusion, the forex market presents a considerable challenge for investors in predicting optimal entry and exit points. This paper has introduced an innovative approach rooted in theLatin alphabetic system, focusing on the accurate forecasting of entry and exit points, especially for intra-day trading. Furthermore, it has highlighted the significance of specific time intervals as crucial indicators of support and resistance, aiding in the identification of trend reversals and continuations. The debate surrounding the profitability of support and resistance, integral components of technical analysis, remains a prominent topic. It is evident that, in this context, technical analysis holds greater sway than fundamental analysis, a viewpoint endorsed by the majority of financial practitioners.

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