

‘FOREX DATA DYNAMICS: ANALYSING CURRENCY TRENDS FOR PROFITABLE TRADING’

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ABSTRACT

The study *Forex Data Dynamics: Analysing Currency Trends for Profitable Trading* provides a comprehensive approach to understanding and profiting from the forex market. It integrates technical analysis (historical price patterns and indicators), fundamental analysis (economic factors like GDP and inflation), and sentiment analysis (market sentiment via tools like the COT report). The research also covers risk management tactics, such as stop-loss orders and diversification, while highlighting the importance of continuous learning. Overall, it offers a solid framework for traders to analyse forex trends and enhance profitability.

KEYWORDS

Foreign Exchange Trading, Currency Trends, Technical Analysis, Economic Fundamentals, Inflation Rates, Central Bank Policies, International Politics, Forex Market Movements.

INTRODUCTION

The foreign exchange (forex) market stands as the largest financial marketplace in the world, with a daily trading volume of \$7.5 trillion as of 2022. Established in 1971 with the shift to floating exchange rates, it involves various participants, including banks, corporations, central banks, and investors, facilitating international transactions. Currency values are set by supply and demand, with companies hedging against fluctuations. Operating 24/7 due to global financial center overlap, the decentralized market responds rapidly to events. The 2022 Triennial Central Bank Survey highlighted an average daily turnover of \$7.5 trillion, with FX derivatives trading, particularly FX swaps, showing a faster growth rate than spot trading.

MAJOR CURRENCIES AND CURRENCY PAIRS

A currency pair in forex shows the value of one currency relative to another, identified by three-letter ISO codes. Major pairs like EURUSD, USDJPY, and GBPUSD are the most traded and highly liquid, using floating rates based on supply and demand. Minor pairs, or crosses, exclude the US dollar, such as EUR/GBP and EUR/JPY, with significant market activity but less volume than the Majors. Exotic pairs combine a major currency with one from a developing market, like USD/TRY and EUR/TRY, featuring wider spreads, lower liquidity, and attracting traders seeking opportunities in emerging markets.

Major Currencies

1. **US Dollar (USD):** The most traded currency, widely used for investment, transactions, and as a "vehicle" currency in forex. Managed by the Federal Reserve since 1913.

2. **Euro (EUR):** The primary currency of 20 EU nations, second only to the USD in global trade and overseen by the ECB.
3. **Japanese Yen (JPY):** Third in trading volume, used as a reserve currency and popular for "carry trades" due to its low interest rates.
4. **British Pound (GBP):** Fourth most traded and held in reserves globally, frequently traded with USD and EUR.
5. **Swiss Franc (CHF):** Considered a safe-haven currency due to Switzerland's stable economy, in high demand during uncertainty.
6. **Indian Rupee (INR):** India's central currency under a managed float by the RBI, influenced but not pegged to other currencies.

Exchange Rate Arithmetic- Cross Rate

Cross rates are derived prices for currency pairs not directly quoted in the forex market, calculated using the prices of underlying currency pairs through multiplication or division.

1. **EURINR:** Calculated from EURUSD at 1.1125/1.1150 and USDINR at 75.64/75.65, resulting in a rate of 84.1495/84.3498.
2. **GBPINR:** Derived from GBPUSD at 1.3300/1.3325 and USDINR at 75.64/75.65, giving a rate of 100.6012/100.8036.
3. **JPYINR:** Since USD is the base currency in both USDJPY and USDINR, JPYINR is calculated using USDJPY at 115.08/115.09 and USDINR at 75.64/75.65, resulting in 65.72/65.74 for 100 JPY in INR.

Basics of Currency Markets and Peculiarities in India

In forex, transactions occur in currency pairs, involving the simultaneous buying of one currency and selling of another. Each pair has a base (primary) and quote (secondary) currency, with bid and ask prices creating a spread that reflects market liquidity. Currency values fluctuate, showing appreciation or depreciation based on economic factors.

Market Timing: In India, forex trading hours are set by FEDAI from 9 a.m. to 5 p.m. IST, with a NOOP limit required for banks and spot date rollovers at midnight.

Forex Rates: Banks use base rates to set daily card rates, adjusting for volatility. Settlement options include spot (T+2), cash (same day), or tom (next day), while forward contracts lock in rates for future settlements.

Settlement Dates: Spot trades settle within two days; cash and tom are pre-spot. Forward contracts allow future settlements, typically with higher liquidity for shorter maturities, and currency futures settle net instead of physical.

REVIEW OF LITERATURE

1. **Machine Learning in Financial Forecasting**
Patel, J., Shah, S., Thakkar, P., & Kotecha, K. (2015). **Forecasting Stock and Stock Index Trends with Trend Deterministic Data Preparation and Machine Learning Methods.**

This study demonstrates that machine learning techniques, like support vector machines and neural networks, improve stock market forecasting and could be adapted to enhance forex trend prediction.

2. Alina F. Serban. Merging average reversal and trend-following tactics in the foreign exchange arena, November 2010.

Serban's research integrates reversal and trend-following strategies, showing that this approach can outperform traditional forex methods and produce significant returns.

3. Currency Trends and Market Behaviour

Engel, C., & West, K. D. (2005). The Role of Exchange Rates and Economic Fundamentals. Journal of Political Economy, 113(3), 485-517.

Engel and West argue that exchange rates often deviate from economic fundamentals due to traders' expectations about future events, contributing to high volatility and challenging the effectiveness of fundamental analysis in forex.

4. Lois Scheirer. Process and framework for providing advice on managing foreign exchange risks to a specific market, December 2001

Scheirer introduces a framework for customized forex risk management, including exposure models, risk assessment, hedging options, and user training.

5. Technical Analysis

Murphy, J. J. (1999). The Study of Financial Market Patterns. New York Institute of Finance. J. J.

Murphy's work covers technical analysis tools chart patterns, indicators, and market behaviour insights—that are essential for predicting forex market movements.

OBJECTIVES

1. Gather and analyse data, including price fluctuations, trade volumes, economic indicators, and geopolitical events, to understand factors influencing currency values and support informed forex trading decisions.
2. Distinguish between technical analysis, which uses historical price patterns and signals, and fundamental analysis, which examines economic indicators and global events, to assess and forecast currency trends effectively.
3. Study chart patterns (e.g., head-and-shoulders), technical indicators (e.g., moving averages), and significant economic events (e.g., GDP reports) to identify and anticipate trends in the forex market.
4. Build a deep understanding of the forex market's dynamic nature, optimizing and adjusting strategies to align with market changes, manage risks, and achieve long-term profitability.

METHODOLOGY AND DATA BASED USED

Forex market analysis primarily relies on historical data, exploring trends and formations through exploratory research. This research method focuses on experimenting with and exploring market questions without providing definitive solutions. The key research methods involve technical analysis, trend analysis, range trading, and chart patterns.

1. **Technical Analysis:** Uses historical price patterns and indicators (e.g., moving averages, RSI) to predict future movements, helping traders identify entry and exit points across various timeframes.
2. **Trend Analysis:** Identifies market direction—up, down, or sideways—guiding buying, selling, or holding strategies based on price trends.
3. **Range Trading:** In low-volatility markets, traders buy at support and sell at resistance within defined price channels, managing risks with stop-loss orders.
4. **Chart Patterns and Indicators:** Uses patterns like triangles and indicators (e.g., Bollinger Bands, ADX) to confirm trends and enhance trading strategies.
5. **Fundamental Analysis:** Evaluates economic factors (e.g., interest rates, GDP) to determine a currency's value and forecast long-term trends.
6. **Sentiment Analysis:** Assesses market sentiment to identify potential trend reversals, complementing technical and fundamental insights.
7. **Data Collection:** Uses secondary data on exchange rates and economic indicators to analyze trends in high-liquidity pairs (e.g., USDINR) across various timeframes.

Monthly USDINR Forecasts

April 2024: USDINR expected to trade between 82.80-83.75, influenced by a strong US dollar, rising oil prices, and geopolitical factors. Key supports and resistances are at 83.15 and 83.50, respectively.

May 2024: Expected range is 83.0-83.75, with support from a strong US dollar and rising bond yields. Key supports and resistances are at 83.15 and 83.55, respectively.

June 2024: USDINR likely to range from 82.50-83.75. Key influences include election results, global bond index inclusion, and oil prices. Key supports and resistances are at 83.0 and 83.55, respectively.

RESEARCH ANALYSIS

(MONTH OF APRIL 2024)

Fed Expects Three Rate Cuts In 2024 Despite Sticky Inflation

The Federal Reserve maintained its interest rate at 5.25-5.50% for the fifth consecutive time, signalling expectations for three rate cuts in 2024 despite persistent inflation. The median projection for the Federal Funds Rate (FFR) at the end of 2024 is between 4.50% and 4.75%. The Fed revised GDP growth for 2024 up to 2.1% and expects the unemployment rate to stay at 4.0%. Inflation remains a concern with the core PCE expected to end at 2.6%, up from 2.4%. Market expectations show a 10% chance of easing in May and 64% in June. The US dollar index (DXY) has shown gains, potentially reaching 107.50 if it breaches 105 levels.

Oil and Commodities: Brent oil prices extended their rally due to geopolitical tensions, including a drone attack on Russian refineries and production cuts by OPEC+. Brent prices are

expected to stay high, potentially reaching \$95/bl, with key resistance at \$89.50 and support at \$83.50. The ongoing conflict and production cuts could further pressure oil prices.

India's Economic and Market Conditions: India's trade deficit has seen a slight improvement, dropping to 1.2% of its gross domestic product (GDP), from 2.0% the year before. This positive change is attributed to a significant increase in foreign investment and the highest level of foreign exchange reserves, which have climbed to \$642.631 billion, indicating a strong belief among investors. The Reserve Bank of India (RBI) is projected to maintain the benchmark interest rate at 6.50% during its upcoming April meeting, with the possibility of reducing it later in 2024. The US Dollar Indian Rupee (USDINR) is currently trading at a support level of 83.15 and a resistance level of 83.50, influenced by movements in global currencies and the price of oil.

USDINR- 83.15 Is the Strong Support While 83.50 Is The Crucial Resistance

Fundamental, technical, and sentiment analysis for forex trading based on the provided report-

Fundamental Analysis: Interest Rates: The US Fed is expected to cut rates in June 2024, while the RBI is likely to keep its repo rate at 6.50% until mid-2024, with potential cuts later. Economic Indicators: US GDP growth is projected at 2.1% for 2024, and India's GDP is forecasted to grow at 7.0% for FY 2024-25. Trade Balance: India's trade deficit widened due to higher imports but was offset by increased services exports. Commodity Prices: Brent oil prices are anticipated to remain high due to geopolitical tensions and OPEC+ production constraints. Currency Reserves: India's FX reserves are at a record high, bolstered by RBI's dollar buying.

Technical Analysis: USDINR Projections: Key support for USDINR is at 83.15; resistance levels are at 83.50, with potential for 83.75 and 84.00 if breached. The trend suggests USDINR may test these resistance levels.

Sentiment Analysis: Investor Behaviour: Positive sentiment in India driven by strong FII inflows and favourable bond inclusion prospects. Currency Sentiment: The Indian Rupee faces pressure from global currency movements and RBI's management of currency stability. Commodity Sentiment: Bullish outlook for Brent oil due to supply constraints and geopolitical risks, affecting energy-dependent economies like India.

(MONTH OF MAY 2024)

Sticky Inflation Likely Delays FOMC Pivot

Fed Interest Rates: The Fed maintained rates at 5.25-5.50% in March 2024, with no immediate rate cuts expected until the latter half of 2024 due to persistent inflation. Markets see a slim chance of a rate cut in May and predict potential cuts by the end of the year.

US Inflation and Growth: Inflation rose to 3.5% in March, and Q1 2024 GDP growth was slower than expected at 1.6% y/y. The US dollar index has been strong, with potential to rise further if it stays above 107.50.

Oil Prices: Crude oil prices increased for the fourth month due to geopolitical tensions and supply concerns, with Brent oil reaching above \$92/bl. Prices are expected to face support at \$83.50 and resistance around \$92.0.

FII Outflows: Foreign Institutional Investors (FIIs) sold \$1.945 billion in April due to rising US bond yields and election uncertainties in India. Total inflows in 2024 stand at \$7.374 billion.

India's Foreign Reserves: Reserves hit a record \$648.56 billion but fell to \$640.33 billion as the RBI intervened in the forex market to stabilize the Rupee. The reserves cover 11-12 months of imports.

India's General Elections: The ruling party is expected to maintain a strong majority, which could boost markets if they exceed 350 seats. A lower seat count could negatively impact markets. FPIs may return to the Indian market post-elections depending on the results

USDINR- 83.15 Is the Strong Support While 83.55 Is The Crucial Resistance

Fundamental, technical, and sentiment analysis for forex trading based on the provided report-

Fundamental Analysis: Interest Rates: The US Fed is expected to maintain rates in May 2024, with potential cuts in September, supporting a strong USD. The RBI is stabilizing the Rupee amid capital inflows and stable oil prices. Trade Balance: India's trade deficit narrowed to \$15.6 billion in March 2024, driven by reduced merchandise exports and increased services exports. Commodity Prices: Brent oil prices are easing due to reduced geopolitical tensions and rising inventories. Gold prices surged due to geopolitical concerns and central banks' increased gold reserves. Currency Reserves: India's reserves reached a record \$648.56 billion, supported by rising gold prices and RBI interventions.

Technical Analysis: USDINR Projections: Key support at 83.15 and resistance at 83.55, with potential for upside to 83.75 and 84.00. USDINR is expected to trade between 83.0-83.75, influenced by a strong USD and rising US bond yields.

Sentiment Analysis: Investor Behaviour: FIIs were net sellers in April 2024 due to rising US bond yields and geopolitical concerns but remain interested in India's growing economy. Currency Sentiment: The Rupee fluctuated between 83.15-83.5750 in April, with support from initial inflows and RBI measures, but impacted by a strong USD. Commodity Sentiment: Brent oil prices are projected to ease, reflecting bearish sentiment, while geopolitical tensions and central banks' gold purchases signal cautious optimism.

(MONTH OF JUNE 2024)

India's General Election Results And Its Impact On Rupee And Equity

India's General Election Results and Market Impact:

Election Outcome: The ruling party is expected to secure a majority and possibly exceed 350 seats. A result above 400 seats would boost the market further, while fewer than 300 seats could cause market declines.

RBI Dividend: The RBI has announced a record ₹2.11 lakh crore dividend to the government, reducing the fiscal deficit estimate to 4.9% and potentially improving India's credit rating. This will enhance market liquidity and support infrastructure spending.

Monetary Policies:

US Fed: Likely to keep rates unchanged at 5.25-5.50% in June 2024. The dollar index weakened in May but may rise if it stays above 106.50.

RBI: Expected to maintain the repo rate at 6.50% in June. CPI inflation eased to 4.83% in April, and rate cuts might begin in the latter half of 2024.

Global Bond Index and Oil Prices:

Bond Inflows: India could see \$25-30 billion inflows from JPMorgan Bond Index inclusion starting June 2024, with additional potential inflows if included in other indices.

Oil Prices: Brent oil declined to \$81.90/bl amid rising inventories and demand concerns. Prices may face support at \$79.50 and resistance at \$87.0.

Trade Deficit and FX Reserves:

Trade Deficit: Expanded to \$19.1 billion in April 2024, with increased imports and gold demand. The overall trade deficit narrowed compared to last year.

Foreign Exchange Reserves: Reached a record \$648.7 billion, bolstered by rising gold reserves and the RBI's interventions.

Foreign Institutional Investors (FII):

Selling Spree: FIIs continued to sell off investments in May due to high US bond yields and geopolitical concerns but are expected to return post-election results.

USDINR- 83.00 Is the Strong Support While 83.55 Is the Crucial Resistance

Fundamental, technical, and sentiment analysis for forex trading based on the provided report-

Fundamental Analysis: The US Fed is likely to keep interest rates steady at 5.25-5.50% through June 2024, with potential cuts postponed to November, which may bolster the US dollar. The RBI is expected to hold its repo rate at 6.50% and could start easing later in 2024. India's trade deficit grew to \$19.1 billion in April, driven by higher gold imports, while both exports and imports increased. Brent oil prices are forecasted between \$77-87 per barrel, with a bearish outlook due to higher US stockpiles and slowing demand. India's foreign exchange reserves reached a record \$648.7 billion, boosted by gold purchases and stronger foreign assets.

Technical Analysis: USDINR Projections: Key support levels are at 83.00, 82.80, and 82.50. Resistance is at 83.55, with potential moves towards 83.75 and 84.00 if breached. USDINR is expected to trade within 82.50-83.75 in June 2024.

Sentiment Analysis: Investor Behaviour: FIIs continued to sell off ahead of the elections due to high US bond yields and geopolitical concerns, while DIIs remained positive. Currency Sentiment: The Rupee traded between 83.54-83.03 in May, supported by inflows and the RBI's dividend payout, but limited by a strong US dollar. Commodity Sentiment: Brent oil prices are influenced by geopolitical tensions and OPEC+ meetings, with bearish sentiment from increased US stockpiles and demand concerns.

RESULTS OR FINDINGS

The study "Forex Data Dynamics: Exploring Currency Trends for Successful Trading" identifies key findings in forex trading, emphasizing the integration of technical and fundamental analysis, effective risk management, and the importance of continuous learning.

Technical analysis uses historical price data, patterns, and indicators to identify trends, while fundamental analysis examines economic and geopolitical events to understand currency fluctuations. Risk management is critical, involving stop-loss orders, position sizing, and diversification across currency pairs. Finally, continuous learning and adaptation are essential, as staying informed and updating strategies helps traders navigate evolving market conditions.

RECOMMENDATIONS AND SUGGESTIONS

Enhance Analytical Skills: Continuously improve technical and fundamental analysis skills, stay updated on global events and market trends.

Implement Robust Risk Management: Set risk limits, use stop-loss orders, and diversify to manage risk effectively.

Continuous Learning and Adaptation: Keep learning, stay informed on market changes, and use demo accounts to practice strategies.

Leverage Technology and Tools: Use advanced trading platforms, automated systems, and analytical software to enhance decision-making.

Develop a Trading Plan: Set clear goals, regularly review performance, and adjust strategies as markets evolve.

Utilize Reliable Data and Platforms: Rely on accurate data sources and robust platforms for effective analysis and trading execution.

CONCLUSION

In forex, currency pairs represent the value of one currency against another, shown using three-letter ISO codes. Major pairs, like EURUSD, USDJPY, and GBPUSD, are the most frequently traded, offering high liquidity and floating exchange rates determined by market demand and supply. Minor pairs, or crosses, do not involve the US dollar—examples include EUR/GBP and EUR/JPY—and, while they have significant trading volume, it's less than that of the Majors. Exotic pairs combine a major currency with one from a developing market, such as USD/TRY and EUR/TRY, featuring wider bid-ask spreads and lower liquidity, making them attractive for traders seeking gains in emerging markets with higher transaction costs.

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