

From Data to R45,000 : How I Applied Data Analysis to Gold Trading During COVID-19

The global outbreak of COVID-19 in 2020 brought extreme volatility to financial markets. Traditional investment assets became unpredictable, while safe-haven assets like gold experienced sharp price movements influenced by investor sentiment, economic uncertainty, and fluctuating demand.

As a data-driven individual, I wanted to understand: How can data analysis techniques be applied to make profitable, risk-managed trading decisions during highly volatile periods?

The goal of this project was to apply data analysis and technical trading principles to the gold market in order to:

- Identify data-driven trading opportunities.
- Optimize entry and exit decisions using technical indicators.
- Manage risk through disciplined execution and performance tracking.
- Demonstrate how analytical skills can translate into real financial outcomes, ultimately resulting in a verified profit of R45 000.

I sought answers to the following:

1. What trends and patterns can be identified in gold price movements during the COVID-19 period (2020–2021)?
2. Which technical indicators and analytical methods provide the most reliable trading signals?
3. How can risk be minimized while maximizing profit in volatile market conditions?
4. Can disciplined, data-driven trading outperform emotional or news-based decision-making?
5. What insights from this project can be applied to data-driven decision-making beyond trading?

Data Sources:

- Historical daily Gold price data (OHLC) from 2020–2021.
- Market sentiment and volatility indicators (VIX, news sentiment indices).
- USD/ZAR exchange rates for profit conversion.
- Live technical data from TradingView.com and Investing.com for indicator validation.

Data Cleaning & Transformation:

- Imported and cleaned datasets in Excel.
- Calculated daily returns, volatility, and moving averages (SMA 7, 14, 30).
- Generated Relative Strength Index (RSI) to measure momentum.

- Annotated support and resistance levels and Fibonacci retracement zones.
- Normalized all data to ensure consistency in analysis and backtesting.

My Analytical Approach

I used a blend of technical indicators and price-action analysis to create a structured decision framework:

- Simple Moving Averages (SMA 7, 14, 30) : Identify trend direction & crossovers for buy/sell signals : Excel
- Fibonacci Retracement : Determine entry/exit points & target zones : TradingView
- Support & Resistance Lines : Confirm price zones where reversals occur : TradingView
- Candlestick Pattern Recognition: Predict short-term reversals or continuations: TradingView
- RSI (14): Identify overbought/oversold conditions: [Investing.com](https://www.investing.com)
- Take Profit (TP) / Stop Loss (SL): Automate exit strategy & manage risk: XM Platform
- Backtesting: Validate strategy on historical data: Excel

My Risk Management Rules:

- Risk per trade: $\leq 2\%$ of capital.
- Avoid trading during high-impact news events.
- Set SL below support (for buys) or above resistance (for sells).
- Set TP based on Fibonacci and previous resistance/support levels.

My Analysis & Findings

Trend & Volatility Analysis

- During early COVID lockdowns, gold showed sharp upward momentum as investors sought safe assets.
- SMA crossovers provided timely buy signals when short-term averages crossed above long-term averages.
- Volatility spikes aligned with major global announcements but were navigated safely by avoiding high-impact news sessions.

My Technical Indicator Insights

- Fibonacci retracements accurately identified pullback zones for entries during trending markets.
- Candlestick formations (e.g., engulfing, hammer, and doji) provided early reversal clues.
- RSI readings below 30 often preceded bullish reversals; readings above 70 indicated profit-taking opportunities.

My Performance

- Consistent adherence to analytical strategy led to R45 000 profit during 2020 June.
- Backtesting showed win rates above 65 % and average reward-to-risk ratio near 2:1.
- Subsequent application in 2021 yielded further verified profits:
 - XM dashboard balance: \$11 225.98 USD
 - Successful withdrawal: \$10 225 USD
 - Capitec payment confirmation: +R152 935.84

My Interpretation & Business Value

- Discipline over Emotion: Data-driven decision rules outperformed intuition and news reactions.
- Technical Analysis as Data Science: Reading and quantifying market behavior is an analytical exercise similar to forecasting or KPI analysis in business.
- Risk Management: Systematic use of TP/SL prevented large drawdowns and preserved capital.
- Scalability: The same analytical mindset can be applied to any dataset, financial or operational to uncover trends, minimize risk, and optimize outcomes.

1. What trends and patterns can be identified in gold price movements during the COVID-19 period (2020–2021)?

- Overall Trend:

Gold prices experienced a strong bullish rally from May to August 2020, reaching an all-time high around \$2,067/oz in early August. This was primarily due to global uncertainty, liquidity injections, and investors shifting toward safe-haven assets.
- Pattern Observations:
 - Between May and July 2020, a consistent pattern of higher highs and higher lows indicated a bullish structure.
 - August to November 2020 showed consolidation and retracement phases, aligning closely with 38.2% and 61.8% Fibonacci retracement zones, offering key re-entry points.

- In December 2020 – February 2021, prices became more range-bound, fluctuating between \$1,770 and \$1,850, as global vaccine optimism reduced gold's momentum.
- Breakouts from consolidation zones typically occurred after RSI divergence or candlestick reversal patterns such as pin bars and engulfing candles.

The pandemic period was dominated by strong upward momentum followed by healthy retracements, perfectly suited for technical trend-following strategies using support/resistance and Fibonacci tools.

2. Which technical indicators and analytical methods provided the most reliable trading signals?

From the backtesting and manual validation:

SMA (7, 14, 30): Trend direction & crossover confirmation: Highly effective for medium-term trades. Clear buy/sell signals during crossovers, especially when confirmed by RSI.

RSI (14): Momentum & overbought/oversold conditions: Reliable when paired with SMA. RSI above 50 confirmed bullish continuation; below 50 confirmed bearish reversals.

Fibonacci Retracement: Identifying potential pullback levels: Excellent for timing re-entries. The 38.2% and 61.8% levels consistently aligned with bounce zones.

Support & Resistance Lines: Entry & exit levels: Critical for TP/SL placement. Helped define structure-based risk control.

Candlestick Patterns: Visual confirmation of reversals: Game changer. Pin bars, engulfing candles, and dojis increased accuracy of entries when aligned with RSI signals.

The combination of SMA crossovers + RSI + Fibonacci retracement + price action confirmation gave me the most accurate and lowest-risk signals, outperforming any single indicator alone.

3. How can risk be minimized while maximizing profit in volatile market conditions?

Key Risk-Management Tactics Used:

1. Set TP (Take Profit) and SL (Stop Loss) for every trade ensuring risk/reward ratios of at least 1:2.
2. Avoided trading during high-impact news events (NFP, CPI, interest rate announcements), reducing sudden volatility spikes.
3. Used position sizing (never risking more than 2% of account per trade).
4. Identified confluence zones only entered trades when multiple indicators agreed.

5. Tracked daily and weekly drawdown to stay below 5%

Even during high volatility in mid-2020, losses remained controlled, and the maximum drawdown never exceeded 5%, while maintaining an average ROI of 38.5%. In conclusion, risk can be minimized by treating every trade as a data-based probability event rather than a prediction, combining statistical confidence, discipline, and stop-loss automation.

4. Can disciplined, data-driven trading outperform emotional or news-based decision-making?

Absolutely and this project's real-world results are proof.

Emotional / News-based trading: Driven by fear, greed, or market hype: Leads to inconsistent entries, overtrading, and losses during volatility.

Data-driven trading: Structured, rule-based, backtested: Produces consistent profitability and clear risk management.

During the COVID-19 chaos (massive headlines, panic, and rumors), gold traders who relied on emotional entries were often trapped in fake breakouts.

By contrast, my strategy used statistical confirmation (RSI, SMA, Fibonacci), entering only when data validated the opportunity.

Discipline + data consistently outperforms emotion, in trading and beyond. The edge isn't prediction; it's consistency.

5. What insights from this project can be applied to data-driven decision-making beyond trading?

- Backtesting before executing: In business: test strategies on historical data before rollout.
- Set TP & SL (risk boundaries): In projects: define success/failure metrics to avoid scope creep
- Avoid emotional decision-making: In leadership, rely on data, not impulse, under pressure.
- Analyze patterns, not moments: In analytics: focus on trends, not single datapoints.
- Review performance and iterate: In business intelligence, use KPIs to refine strategies

The same discipline that protects trading capital can also protect business resources, guide strategic decisions, and optimize performance through continuous feedback loops over time.

Trading during COVID-19 wasn't about chasing prices, it was about staying patient, trusting data, and managing risk like a professional analyst.

- Gold followed clear data-driven structures despite chaos.
- SMA, RSI, Fibonacci, and candlestick patterns formed a powerful system.

- Controlled risk and consistent discipline ensured profitability.
- The project bridges financial markets and business intelligence, both thriving on data-backed consistency over emotional reaction.

What I learned from this is that, Data literacy is power, even in volatile environments like trading.

Structure beats impulse: Following a data-validated strategy ensures consistency.

Visualization matters: Charts and indicators simplify complex patterns into actionable signals.

Something else I discovered: The same data analysis methods I used here, cleaning, exploration, forecasting, and validation are directly applicable to business intelligence, finance, and strategy roles.

Reflecting on the project, I realized that Data analysis taught me that trading is less about predicting and more about responding intelligently. This project strengthened my ability to:

- *Translate complex data into actionable insights.*
- *Apply structured analytical frameworks to real-world problems.*
- *Maintain discipline through data-driven decision making.*

The same principles that led to profit here, consistency, analysis, and control are what I now bring to business intelligence and data strategy.