Insider Trading in AUD/USD: A Surveillance Replication of the 2015 Hill & Kamay Case with Modern Detection Enhancements

1. ASIC Remit Background

As Australia's financial market regulatory, ASIC's statutory responsibilities includes surveillance, regulation and enforcement of market activity under the *Australian Securities and Investments Commission Act 2001* and the *Corporations Act 2001 (Empowered by Pt 7.2A).* In the context of the OTC markets, Pt 7.5A of the *Corporations Act* imposes several requirements such as:

- **Derivative transaction reporting**: Imposes obligations to report information about transactions and positions in OTC derivatives to a licensed or prescribed trade repository.
- **Derivative trade repositories:** Trade repositories must be licensed or prescribed.
- **Central clearing of OTC derivatives**: OTC interest rate derivatives must be centrally cleared through licensed or prescribed clearing/settlement facilities.

These obligations are further supported by ASIC's **Derivative Transaction Rules (Reporting) 2024**, which set out the required fields, submission timeframes, and counterparty responsibilities. Regulatory Guide **RG 251** outlines ASIC's approach to market surveillance, emphasising the role of data analytics in detecting and deterring misconduct such as insider trading and market manipulation. Additionally, **RG 265** gives guidance on the ground rules for participating in the securities market and compliance with relevant obligations.

A notable case study that demonstrates ASIC's regulatory power in action is the 2015 *Hill & Kamay* insider trading case, which this report explores alongside an applied anomaly detection framework simulating how such misconduct might be identified in the OTC derivatives space.

2. Insider Trading Case Description

2.1. Kamay and Hill Case Summary

In 2014, ASIC enforced section 1043A of the Corporations Act 2001, which prohibits insider trading, against Lukas Kamay and Christopher Hill. Leveraging non-public information about upcoming ABS releases, Kamay executed trades in the AUD/USD market, generating over $7 million in illegal profits. The investigation, conducted in collaboration with the AFP, led to both parties being found guilty of insider trading, contravening sections 1043A and 1311(1) of the Corporations Act. This landmark case highlights ASIC's ability to act decisively on market abuse, even in OTC markets where surveillance is inherently more complex.

2.2. OTC Derivatives Surveillance and ASIC's Challenges

Surveillance in OTC FX markets presents structural and operational challenges:

- Market structure: FX markets are highly liquid and decentralised, making illicit activity harder to detect.
- Information complexity: Participants may exploit asymmetries in economic release timing or local knowledge, as demonstrated in the Kamay case.
- Cultural reliance on whistleblowing: Historically, some insider trading cases are uncovered via tips, not proactive detection.

These challenges reinforce the importance of the trade repository regime (under Pt 7.5A of the Corporations Act) and the role of structured transaction data in supporting proactive detection frameworks.

3. Surveillance Replication with Modern Enhancements

3.1. Methodology Overview

Inspired by Batten et al. (2020), this report replicates and extends the original surveillance analysis using modern techniques. We extracted and computed a range of indicators shown to have discriminatory power in identifying insider trading behaviour:

- Garman–Klass Intraday Volatility (GKe): Higher volatility on news days allows trades to blend in with general market noise.
- CUSUM of Excess Returns: A low cumulative abnormal return profile is consistent with stealthy insider strategies.
- Interaction Terms: Variables like *excess* × *news and GKe* × *news* isolate the impact of economic announcements.
- Beta (local vs. global): Insider trades tend to be more sensitive to local signals, measurable through return betas relative to market and regional baskets.

Each statistic is benchmarked against known periods of insider trading activity. Results show that GKe, interaction terms, and local beta divergences are consistently elevated during periods of interest, supporting their inclusion in surveillance models.

3.2. Simulated Surveillance & Anomaly Detection

To tangibly test whether these indicators would be effective in a surveillance model, data analysis of AUD/USD in the 2 years (1/1/2013 to 31/12/2014) Hill & Kamay was conducted. Statistical properties of the indicators of the 11 ‘insider’ trades (derived from Batten et al. (2020)) were derived aswell as ‘normal’ trades to establish distinct behavioural baselines.

An Isolation Forest Machine Learning algorithm was applied to a simulation of 10,000 trades where 1,000 insider trades were embedded. The same statistical properties derived from data analysis of Hill & Kamay’s insider trades was used to simulate the

'insider' trades and vice versa for the 'normal' trades. To measure the effectiveness of the Isolation Forest algorithm, evaluation of a confusion matrix was used. This simulation was conducted repeatedly until the average confusion matrix converged to within 0.002% of each other, as seen in Figure 1.

The confusion matrix shows that, out of 1,000 'insider' trades (sum of the bottom row), 321.2 trades were correctly identified as insider trades whilst 678.8 was incorrectly identified as normal – a 'precision' rate of 32.12%. Out of the 9,000 'normal' trades, 678.8 was incorrectly identified as an 'insider' trade, whilst 8,321.2 was correctly identified as 'normal' trades – a false positive rate of 7.54%.

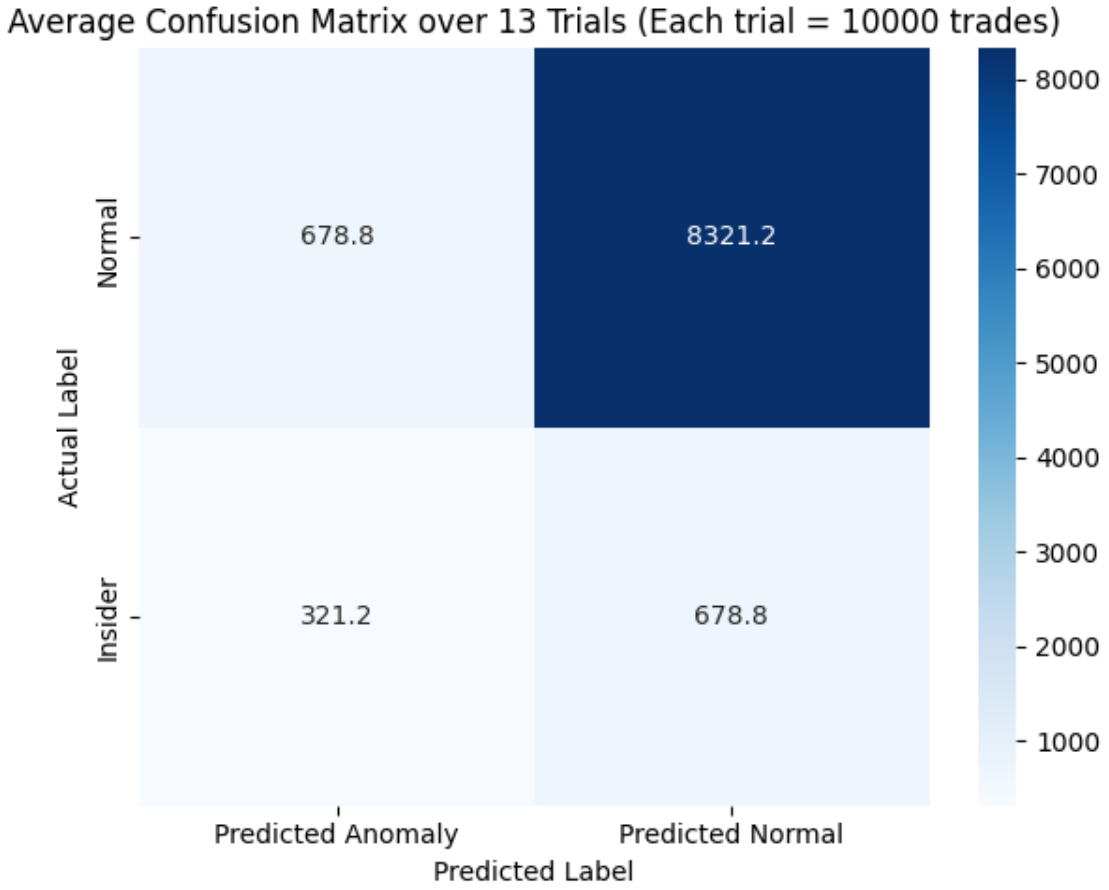

Figure 1: Confusion Matrix of IForest Algorithm Results in a Monte Carlo simulation

While preliminary, these results represent a promising foundation for surveillance in OTC FX markets—despite their inherently opaque and fragmented structure. Given the limited availability of confirmed insider trade data and the constraints of this study, achieving a 32.12% precision rate with only statistical feature simulation and an off-the-shelf Isolation Forest model is encouraging. With further refinement—such as integrating trader-level performance data (e.g. PnL-to-account-size ratios), expanded anomaly-labeled datasets, and deeper feature engineering based on Kamay and Hill's trading footprint—this framework could evolve into a viable detection tool. The scalability of this approach and its compatibility with existing trade repository inputs also offer clear regulatory utility.

4. Regulatory implications and enforcement referral

The Hill and Kamay case remains one of the only publicly confirmed examples of insider trading in Australia's OTC FX derivatives market. That fact alone highlights both the challenge and the urgency of improving surveillance tools. Despite the structural opacity of the OTC environment—decentralised venues, bilateral execution, and limited pre-trade transparency—insider trading directly erodes confidence in the fairness and transparency of financial markets, contravening ASIC's statutory mandate under s798H(1)(b) of the Corporations Act.

The results of this simulation provide a useful signal: even under constrained conditions, applying anomaly detection models like Isolation Forest can begin to differentiate suspicious activity. Embedding this into ASIC's Market Integrity surveillance program would enable continuous monitoring of trade repository data using statistical benchmarks derived from known insider activity. A logical next step would be a 90-day internal lab prototype within the Market Integrity data-lake, ingesting real OTC trade repository fields and generating anomaly flags across specific trader identifiers. Although not enough to begin investigations, beginning to build a profile of what 'insider trading' looks like is a logical first step.

In parallel, ASIC may consider whether the current whistleblower regime—while effective in broader misconduct—is sufficiently targeted to incentivise disclosures related specifically to insider dealing and trading in derivatives. A tailored insider-trading whistleblower mechanism could complement these data-driven tools, ensuring that both human intelligence and quantitative surveillance work in tandem. Obtaining more confirmed insider trading behaviour will tremendously assist in building a general picture of what how insiders trade.