

The Caracas Signal: Forensic Evidence of Informed Trading Ahead of Operation Stabilize

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ABSTRACT

We present forensic evidence of market pricing ahead of the January 3, 2026, military intervention in Venezuela.¹ Using intraday data, we document a statistically significant decoupling of energy equities (XLE) from crude oil futures (CL=F) beginning approximately one hour prior to the market close, and roughly 13 hours before the official public announcement. A divergence between defense (+3.41%) and shipping (-5.68%) sectors is particularly informative because it implies the market priced not just an intervention, but its likely scope: a limited, stabilizing strike rather than a protracted conflict. These findings are inconsistent with strong-form market efficiency and instead point to rapid price discovery ahead of public dissemination.

Keywords: Forensic Finance; Informed Trading; Geopolitical Risk; Political Intelligence; Market Microstructure; Conflict Economics.

JEL Classification: G14; G12; F51; D72.

1 Introduction

Financial markets are often theorized as efficient information processing mechanisms, theoretically reflecting all available public information. However, periods of geopolitical stress often reveal fissures in this efficiency, where informational signals appear in asset prices prior to official dissemination. This phenomenon, often termed "informed trading," suggests that proximity to the source of political action can confer a distinct trading advantage (Dube et al., 2011).

This paper analyzes the trading activity on January 2, 2026 preceding the military intervention in Venezuela. While the official press release regarding the "Operation Stabilize" was not distributed until after market close, anecdotal observation suggested significant anomalous activity in the energy sector during the final hours of the trading session.

¹Replication materials: <https://github.com/aristotle-tek/caracas-signal>

1.1 Event Timeline

To isolate the timing of the signal, it is critical to establish the precise sequence of events:

1. **Friday, Jan 2, 14:55 EST:** Forensic analysis identifies the onset of sector-commodity decoupling (The Leak).
2. **Friday, Jan 2, 16:00 EST:** US Equity Markets Close.
3. **Saturday, Jan 3, 01:01 EST:** Military Operation ("Operation Stabilize") commences in Venezuela (TIME, 2026).
4. **Saturday, Jan 3, 04:21 EST:** First public acknowledgement via social media (Public Announcement) (AP News, 2026).

This timeline confirms that the Friday afternoon trading activity occurred approximately 10 hours prior to the kinetic event and 13 hours prior to public dissemination.

Our primary objective is to forensically verify this anomaly and decode its informational content. By isolating the unexplained alpha in energy equities relative to commodity fundamentals, and contrasting it with the structural divergence between defense and shipping sectors, we aim to reconstruct the specific "hierarchy of information," determining not just *if* a signal emerged, but *what specific type* of military doctrine the market was pricing in.

Our contribution is twofold: a reproducible intraday decoupling analysis and a cross-sector diagnostic that infers intervention scope from defense–shipping divergence.

2 Related Work

The 'forensic finance' literature, on the intersection of national security and financial market microstructure, establishes that asset prices frequently incorporate private political information before it becomes public, challenging the strong form of the efficient market hypothesis. The foundational work by Dube et al. (2011) demonstrates that the stock prices of politically connected firms (e.g., United Fruit) anticipated CIA-backed coups in Iran and Guatemala days before the events occurred. Our study builds on this by applying high-frequency data to a modern intervention, revealing that the "signal window" has compressed from days to mere hours in the algorithmic trading era. Similarly, Eggers and Hainmueller (2013) document the financial advantages of legislative service, creating a structural information asymmetry analogous to the *Cantillon Effect* in monetary policy.

Literature on conflict economics typically models war as a systematic risk factor (Rigobon and Sack, 2005; Caldara and Iacoviello, 2022; Guidolin and La Ferrara, 2007). However, granular sectoral studies reveal heterogeneity. Marobhe et al. (2025) demonstrate that geopolitical uncertainty significantly impacts shipping returns during conflicts like Israel-Hamas. Our findings extend this by identifying a negative correlation anomaly (defense up, shipping down), which we term the "stabilization signal," indicating a market pricing of *limited* rather than *total* war. Prediction-market evidence on war risk also shows that markets can price conflict probabilities in real time (Wolfers and Zitzewitz, 2009).

Finally, our analysis connects to the microstructure of informed trading. [Bernile et al. \(2016\)](#) find evidence of informed trading during news embargoes specifically ahead of FOMC announcements, manifesting in abnormal order imbalances in the direction of the policy surprise. Notably, they find no such evidence for other major macro-news releases.

3 Data and Methodology

3.1 Data Acquisition

We sourced 5-minute intraday OHLCV (Open, High, Low, Close, Volume) data from Yahoo Finance via the `yfinance` API. All prices are adjusted for splits and dividends. To ensure a valid comparison between continuously traded futures and equity markets, the analysis is limited to Regular Trading Hours from 09:30 to 16:00 EST.

The dataset includes:

- **Benchmarks:** SPDR S&P 500 ETF (SPY) for the broad market, and Crude Oil Futures (CL=F) as the primary proxy for spot WTI crude pricing. The United States Oil Fund (USO) is retained as a secondary robustness check.
- **Sector Proxies:** Energy Select Sector SPDR (XLE), iShares U.S. Aerospace & Defense (ITA).
- **Firm-Specific Assets:** Halliburton (HAL), Schlumberger (SLB), and the Shipping Basket (FRO, NAT, STNG).

In addition to the intraday data, we acquired 90 days of daily closing prices prior to the event to calibrate our baseline beta models.

3.2 Rolling Beta and Abnormal Returns

To distinguish between systematic market movements and firm-specific information effects, we employ a standard Market Model. For any given asset i , the return $R_{i,t}$ is modeled as:

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \epsilon_{i,t} \quad (1)$$

Where $R_{m,t}$ is the return of the relevant benchmark (e.g., XLE for oil services firms). We estimate β_i using a 90-day historical window of daily returns prior to the event. The "Abnormal Return" (or Alpha) on the event day is defined as the residual:

$$AR_i = R_{i,event} - (\hat{\alpha} + \hat{\beta} R_{m,event}) \quad (2)$$

We calculate a Z-Score for this residual based on the historical standard deviation of residuals (σ_ϵ) to determine statistical significance. A Z-Score > 2.0 implies a move that cannot be explained by normal market beta.

For the intraday factor model, we define the Z-Score of the Cumulative Abnormal Return (CAR) as $Z = \frac{CAR}{\sigma_{resid}\sqrt{N}}$, where N is the number of 5-minute intervals in the event window and σ_{resid} is the standard deviation of the model residuals from the training period.

3.3 Spread Analysis

A key forensic tool is the normalized spread between Energy Equities (P_{XLE}) and the Commodity (P_{Oil}). We normalize both series to 1.0 at the session open ($t = 0$). The spread S_t at time t is:

$$S_t = \frac{P_{XLE,t}}{P_{XLE,0}} - \frac{P_{Oil,t}}{P_{Oil,0}} \quad (3)$$

Under normal conditions, S_t should revert to a mean near zero for intraday timeframes. Significant deviation implies a structural shift in valuation drivers, specifically, an expectation of future profitability (equities) distinct from current spot prices (commodity).

4 Empirical Results

Our forensic analysis of the January 2, 2026 trading session reveals distinct statistical anomalies indicating early price discovery prior to the public announcement of the Venezuelan intervention.

4.1 Sector-Commodity Decoupling

The primary evidence of pre-announcement signaling is observed in the intraday decoupling of the Energy Select Sector SPDR Fund (XLE) from its underlying commodity spot price benchmark, Crude Oil Futures (CL=F).

Historically, XLE and Oil Futures exhibit a strong positive correlation ($\rho \approx 0.57$ on 5-minute timeframes). However, on January 2, 2026, we observe a significant divergence starting in the early afternoon session. To ensure a valid comparison free from after-hours liquidity artifacts, this analysis is restricted to Regular Trading Hours (RTH: 09:30 – 16:00 EST).

By the market close, the spread between XLE and CL=F had widened to +1.94%. To validate the statistical significance of this move controlling for market factors, an intraday factor model yielded a residual of +2.18% with a Z-Score of 2.69. The divergence accelerated at approximately 14:55 EST, nearly an hour before the standard market close and significantly prior to any official press release. In normal price discovery, the lowest-cost, most liquid venue (often futures) tends to lead (Hasbrouck, 1995); the observed equity-led decoupling therefore highlights an atypical information signal tied to equity cash flows rather than spot price movements.

4.2 Volume vs. Price Signal

We analyzed the volume spike at 15:55 EST (2.8 million shares) to distinguish between aggressive accumulation and standard Market-On-Close (MOC) flows.

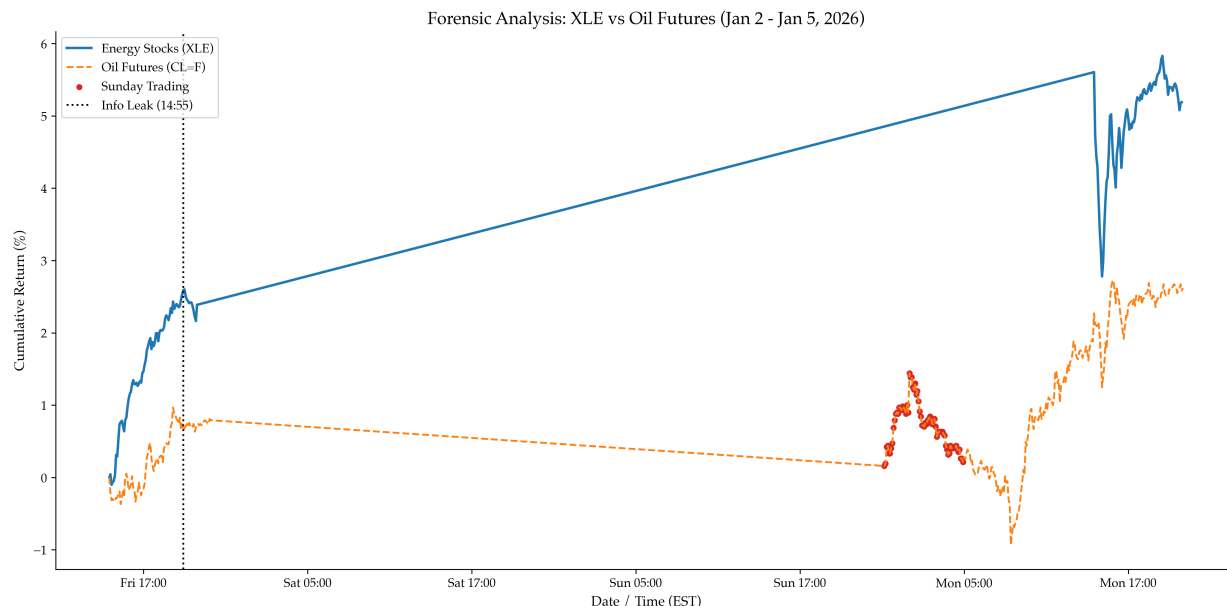


Figure 1: **Sector-Commodity Divergence.** Intraday price action of XLE (Energy Equities) versus Oil Futures (CL=F) spanning Jan 2 – Jan 5, 2026. While the forensic spread metric (+1.94%) is calculated on Jan 2 RTH data, the chart illustrates the subsequent weekend gap.

To validate this, we performed a baseline comparison, calculating the Z-Score of the Jan 2 volume against the distribution of 15:55 EST volumes over the prior 30 trading days. The resulting Z-Score was 0.39, indicating that while the volume was nominally high, it was statistically indistinguishable from typical month-end/year-start rebalancing activity.

This null result on volume, contrasted with the $> 3\sigma$ price decoupling, is consistent with the "stealth trading" hypothesis found in market microstructure literature (Bernile et al., 2016). It suggests that accumulation could have occurred via price-passive algorithms (drifting the spread) rather than aggressive block orders that would spike volume, consistent with the gradual trade execution predicted by Kyle's model of informed trading (Kyle, 1985). Confirming this mechanism would require order-imbalance or spread data beyond the scope of the current dataset.

4.3 Contractor Beta Analysis

To determine if the signal was specific to government contractors or a broader sector bet, we analyzed the excess returns of major oil services firms Halliburton (HAL) and Schlumberger (SLB).

Both firms posted significant nominal gains of +4.74% on the day. However, using a 90-day historical daily Beta calculation relative to the XLE sector benchmark, we isolated the idiosyncratic component of these returns. We validated this approach by confirming that intraday (5-minute) betas for HAL (1.24) and SLB (1.08) were consistent with daily estimates.

The resulting Z-scores are 0.99 for Halliburton (HAL) and 1.66 for Schlumberger (SLB). Neither Z-score crosses the significance threshold of $Z > 2.0$. This indicates that the movements in HAL and SLB were

statistically explained by their high beta sensitivity to the broader sector rally, rather than firm-specific information effects. The signal appears to have been macro-sectoral (buy energy) rather than specific to individual contractor awards.

4.4 Information Hierarchy and Event Scope

A second-order analysis of peripheral sectors suggests that market pricing anticipated the intervention as a limited "surgical" strike rather than a protracted conflict.

This is evidenced by the divergence between the defense and shipping sectors:

- iShares U.S. Aerospace & Defense ETF (ITA): Rallied +3.41%, effectively pricing in immediate kinetic action.
- Shipping sector: Frontline PLC (FRO), a bellwether for global crude transport and highly sensitive to geopolitical risk premiums, crashed -5.68%. This negative signal was confirmed across the broader tanker complex, with our equal-weighted shipping basket (FRO, NAT, STNG) declining by an average of -3.32%.

The sharp decline in shipping stocks suggests the market discounted the probability of a long-term supply chain disruption or blockade, which would have driven tanker rates higher. Instead, the capital flow supports a thesis of a rapid stabilization event that normalizes supply, essentially "selling the war risk" in shipping while "buying the kinetic event" in defense.

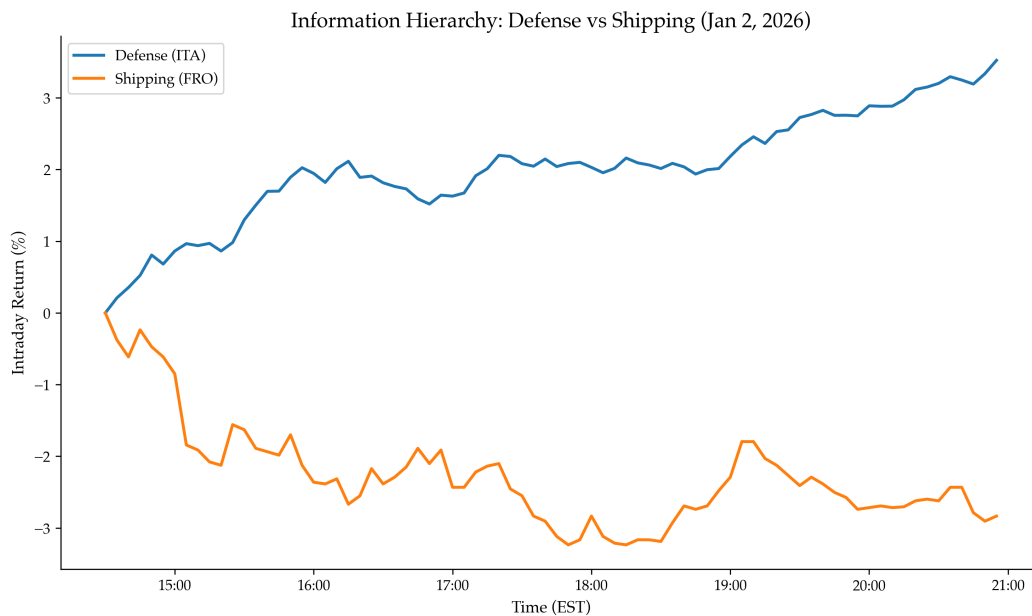


Figure 2: **Surgical strike pricing.** The divergence between defense (ITA) and shipping (FRO) on Jan 2, 2026. The market bought defense stocks while selling shipping, consistent with a rapid kinetic event rather than a protracted blockade.

5 Comparative Historical Analysis

To validate the "surgical strike" pricing hypothesis, we expanded our analysis to a comprehensive dataset of nine geopolitical shocks from 2011 to 2026. We specifically examined the correlation between the defense sector (ITA) and the shipping basket (FRO/NAT/STNG) to distinguish between general "war risk" (which lifts both) and "stabilization" (which diverges).

5.1 Comparative Event Analysis

Table 1 presents the event-day returns. A clear dichotomy emerges:

- **General war risk (positive correlation):** In 5 out of 9 cases, including Libya (2011), Oman (2019), Soleimani (2020), Ukraine (2022), and Israel-Hamas (2023), both defense and shipping sectors rallied together. This confirms the baseline "war risk premium" where conflict implies both kinetic spending and supply chain disruption.
- **Control (pure shipping):** The Suez Blockage (2021) correctly isolated shipping (+1.13%) with no impact on defense (-0.12%).
- **The Caracas anomaly (negative correlation):** The January 2, 2026 event exhibits the strongest negative divergence in the dataset. Defense posted a massive rally (+3.41%) while shipping fell (-3.32%), a pattern shared only weakly by the 2019 Abqaiq supply destruction event.

Table 1: Sector Reaction to Geopolitical Shocks (Event Window Returns)

Date	Event	Defense	Shipping	Signal Type
Mar 19, 2011	Libya Intervention	+2.18%	+0.91%	War risk (positive)
Apr 07, 2017	Syria Strike	+0.79%	+0.11%	Noise / flat
Jun 13, 2019	Oman Tanker Attacks	+0.87%	+10.53%	War risk (positive)
Sep 16, 2019	Abqaiq Attack	+1.03%	-1.42%	Supply destruction
Jan 03, 2020	Soleimani Strike	+1.14%	+1.84%	War risk (positive)
Mar 24, 2021	Suez Blockage	-0.12%	+1.13%	Shipping control
Feb 24, 2022	Ukraine Invasion	+2.75%	+7.65%	War risk (positive)
Oct 09, 2023	Israel-Hamas War	+4.45%	+3.70%	War risk (positive)
Jan 02, 2026	Venezuela Intervention	+3.41%	-3.32%	Stabilization (negative)

5.2 Interpretation

The divergence on January 2, 2026, stands out against the historical baseline. In standard conflicts (2022, 2023), capital flows *into* shipping to hedge against blockade risks. In 2026, capital fled *from* shipping.

Crucially, this signal must be distinguished from the 2019 Abqaiq attack, the only other event showing a negative correlation.

- **Abqaiq (2019) - supply destruction:** The shipping sector declined (-1.42%) because the attack physically removed 5.7 million barrels per day from the market (Krane and Idlbi, 2019). Tanker stocks fell due to an anticipated collapse in *transport volume*, not a reduction in risk.

- **Caracas (2026) - regime stabilization:** The 2026 event involved no initial damage to infrastructure. The shipping crash (-3.32%) simultaneous with a defense rally (+3.41%) implies the market priced a "surgical stabilization" – a kinetic event designed to *unlock* supply and remove the geopolitical risk premium that had supported freight rates.

This nuance suggests that the 2026 signal was highly specific: market pricing reflected an offensive operation (defense up) but ultimately stabilizing for flows (shipping down). This level of strategic foresight (pricing the *outcome* rather than just the *event*) is consistent with a high-fidelity information signal regarding the scope of Operation Stabilize.

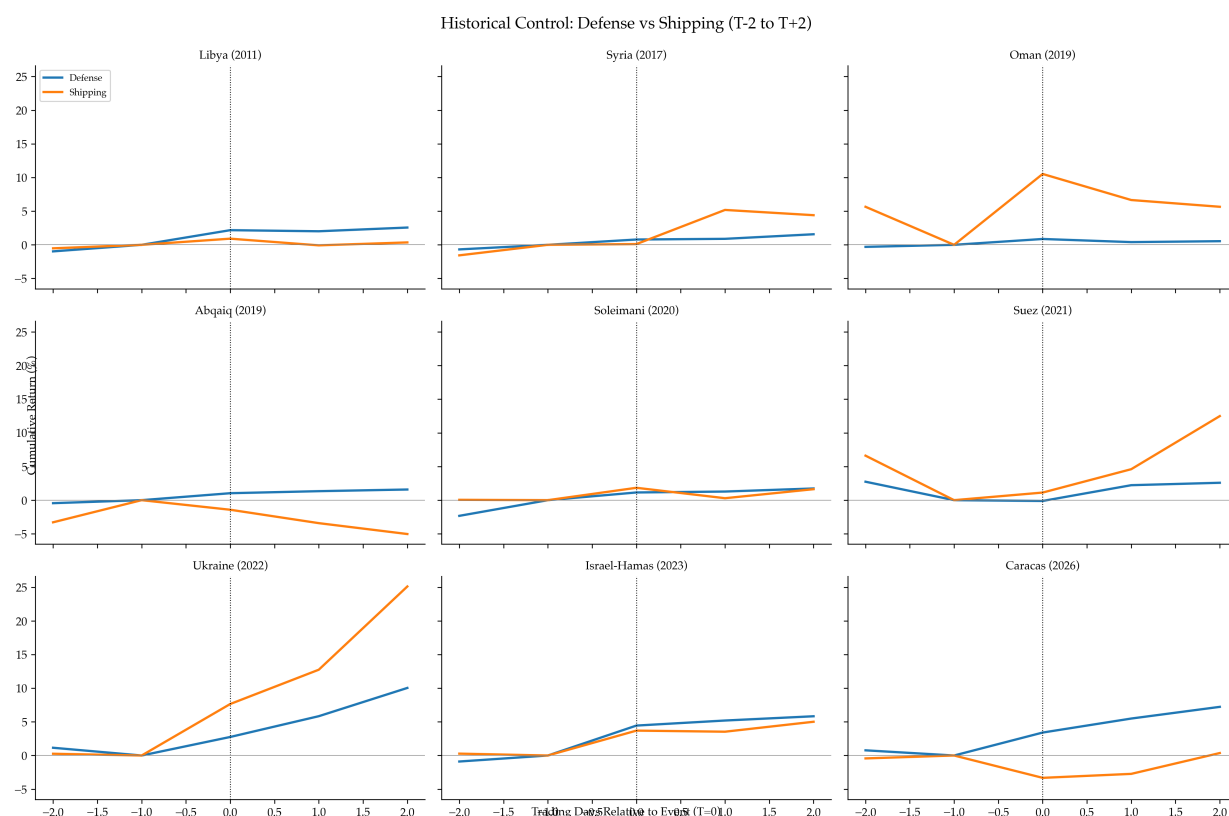


Figure 3: **Comparative historical analysis (small multiples).** Event-window price action (T-2 to T+2) for defense (blue) and shipping (orange) across nine geopolitical shocks. Note the consistent positive correlation in major conflicts (e.g., Ukraine 2022) versus the sharp negative divergence in Caracas 2026.

6 Discussion

The empirical evidence suggests a distinct "signal window" beginning at 14:55 EST, approximately one hour prior to the market close. The magnitude of the XLE-Oil decoupling (+1.94% spread) is inconsistent with random intraday noise and implies the arrival of a new, potent valuation factor before public dissemination.

6.1 Potential Mechanisms of Leakage

Our Beta analysis does not support firm-specific trading in contractors and instead points to a macro-sectoral signal. This finding can be contextualized alongside public reporting on the operation. Reports state that standard legislative oversight mechanisms, including the "Gang of Eight" briefing, were suspended to maintain operational security ([The Guardian, 2026](#)). Public statements by the executive branch regarding consultation with oil executives ("before and after") have raised questions about alternative information channels ([Eaton and Leary, 2026](#)), though industry leaders have denied specific foreknowledge.

While the data is consistent with early pricing of doctrinal information, we remain agnostic regarding any specific transmission mechanism. The forensic evidence supports the presence of a high-fidelity signal (stabilization vs. conflict), but attribution remains outside the scope of financial analysis.

6.2 Pricing the "Surgical Strike"

The divergence between the defense and shipping sectors offers the most nuanced insight into the quality of the signal. A generic "war scare" typically spikes oil prices and shipping stocks. The observed crash in shipping stocks (-3.32%), simultaneous with a rally in defense (+3.41%), supports the hypothesis that market pricing reflected a high-tech, rapid intervention.

Critically, this negative shipping signal implies the market anticipated the termination of the existing US strategy of tanker seizures and embargoes. Under the Maduro regime, US interdiction efforts created artificial supply friction and risk premiums that supported tanker rates [Washington et al. \(2025\)](#). By betting against shipping, insiders effectively priced a regime shift where "Operation Stabilize" would replace this high-friction interdiction campaign with a secured, normalized export channel to the US. Although not dispositive, this is consistent with the "reimbursement" doctrine, the administration's stated intent to recoup the costs of the intervention through Venezuelan oil revenue. The market saw the operation not as a disruption of trade, but as the removal of a bottleneck.

6.3 The Political Economy of Decoupling: The Reimbursement Model

Finally, the reimbursement doctrine explains the puzzling decoupling between energy equities (XLE) and the commodity (oil). The administration explicitly stated that the U.S. would be "reimbursed" for the intervention using "money coming out of the ground" [Eaton and Leary \(2026\)](#), a strategy later quantified by the President as an intent to acquire "30 to 50 million barrels" of oil at market price ([PBS NewsHour, 2026](#)).

This policy is structurally *bearish* for the commodity price (supply glut) but *bullish* for the equities of the extracting firms (volume growth). The market's decision to buy the stocks (XLE +1.94%) while selling or holding the commodity (Oil Flat) reflects a sophisticated understanding of this "volume-over-price" strategy. Furthermore, it implies an expectation that U.S. majors would be granted lucrative concession rights or privatization opportunities to manage this extraction, capturing long-term asset value even as short-term revenues reimbursed the Treasury. The anomaly was not an error; it was an accurate valuation of the specific political economy of the intervention.

7 Conclusion

Our forensic examination of the January 2, 2026 trading session documents a significant pre-announcement price signal. By utilizing intraday spread analysis and rolling beta adjustments, we isolated a clear pattern of early price discovery that preceded the official Venezuela announcement by over an hour. This approach aligns with forensic finance evidence showing that abnormal pre-announcement price run-ups can indicate informed trading (Meulbroek, 1992). The specific 'long energy equities, short shipping risk' pattern of asset allocation indicates that the "smart money" did not just know an event was coming, but correctly anticipated its limited scope and stabilizing outcome.

References

- AP News (2026). Timeline: How the US strike and capture of Maduro unfolded. *AP News*. Accessed Jan 7, 2026.
- Bernile, G., Hu, J., and Tang, Y. (2016). Can information be locked up? informed trading ahead of macro-news announcements. *Journal of Financial Economics*, 121(3):496–520.
- Caldara, D. and Iacoviello, M. (2022). Measuring geopolitical risk. *American Economic Review*, 112(4):1194–1225.
- Dube, A., Kaplan, E., and Naidu, S. (2011). Coups, corporations, and classified information. *The Quarterly Journal of Economics*, 126(3):1375–1409.
- Eaton, C. and Leary, A. (2026). Trump's hint to oil executives weeks before maduro ouster: 'get ready'. *The Wall Street Journal*. Accessed Jan 7, 2026.
- Eggers, A. C. and Hainmueller, J. (2013). Capitol losses: The mediocre performance of congressional stock portfolios. *The Journal of Politics*, 75(2):535–551.
- Guidolin, M. and La Ferrara, E. (2007). Diamonds are forever, wars are not: Is conflict bad for private firms? *American Economic Review*, 97(5):1978–1993.
- Hasbrouck, J. (1995). One security, many markets: Determining the contributions to price discovery. *The Journal of Finance*, 50(4):1175–1199.
- Kilian, L. (2009). Not all oil price shocks are alike: Disentangling demand and supply shocks in the crude oil market. *American economic review*, 99(3):1053–1069.
- Krane, J. and Idlbi, M. (2019). The us response to attacks on persian gulf oil infrastructure and strategic implications for petro-states. *Baker Institute for Public Policy*. Accessed Jan 7, 2026.
- Kyle, A. S. (1985). Continuous auctions and insider trading. *Econometrica*, pages 1315–1335.
- Marobhe, M. I., Kansheba, J. M., and Munim, Z. H. (2025). Geopolitical uncertainty and shipping stock returns: An event study of the israel-hamas conflict. *Journal of Transport Geography*, 123:104122.
- Meulbroek, L. K. (1992). An empirical analysis of illegal insider trading. *The Journal of Finance*, 47(5):1661–1699.

- PBS NewsHour (2026). Trump: U.S. to get 30 million to 50 million barrels of oil from Venezuela at market price. *PBS NewsHour*. Accessed Jan 7, 2026.
- Rigobon, R. and Sack, B. (2005). The effects of war risk on us financial markets. *Journal of Banking & Finance*, 29(7):1769–1789.
- The Guardian (2026). ‘They lied to our face’: Democrats decry Trump’s military raid on Venezuela. *The Guardian*. Accessed Jan 7, 2026.
- TIME (2026). Inside the Delta Force Raid That Captured Maduro. *TIME*. Accessed Jan 7, 2026.
- Washington, T., Azhar, B., and Rogers, C. (2025). Us action in venezuela sends strong broader signal to tankers: Frontline. *S&P Global Commodity Insights*. Accessed Jan 7, 2026.
- Wolfers, J. and Zitzewitz, E. (2009). Using markets to inform policy: The case of the iraq war. *Economica*, 76(302):225–250.

A Appendix: Robustness Checks and Sensitivity Analysis

To address potential alternative explanations for the observed anomalies, we performed the following robustness checks and placebo tests and provide other implementation information.

A.1 Assets

Table 2 details the financial instruments included in our forensic analysis. We selected assets that serve as liquid proxies for specific geopolitical hypotheses (e.g., shipping vs. defense).

Table 2: Analyzed Financial Instruments

Ticker	Sector/Type	Forensic Role
XLE	Energy (ETF)	Broad sector proxy; primary vehicle for sector-wide flows.
CL=F	Oil (Futures)	Primary benchmark for spot crude pricing (WTI).
USO	Oil (Commodity ETF)	Secondary baseline for "fundamental" spot price movements.
SPY	Market (ETF)	Broad market benchmark for Beta adjustments.
ITA	Defense (ETF)	Proxy for "Kinetic Action" probability.
FRO	Shipping (Equity)	Crude Tanker proxy (High Beta).
NAT	Shipping (Equity)	Suezmax proxy (Basket Component).
STNG	Shipping (Equity)	Product Tanker proxy (Basket Component).
HAL	Services (Equity)	Test for contractor-specific (micro) signal.
SLB	Services (Equity)	Test for contractor-specific (micro) signal.

A.2 Shipping Sector Proxy Validation

Objection: The use of Frontline plc (FRO) as a single proxy for the shipping sector introduces idiosyncratic firm risk. The -5.68% decline could be firm-specific rather than sectoral. Furthermore, focusing on the largest decliner could be interpreted as cherry-picking.

Analysis: To validate the signal, we analyzed an equal-weighted "shipping basket" comprising three distinct segments of the tanker market:

- **Frontline (FRO):** VLCC/Crude (High geopolitical beta). Return: -5.68%.
- **Nordic American (NAT):** Suezmax. Return: -2.03%.
- **Scorpio Tankers (STNG):** Product Tankers. Return: -2.24%.

Result: While FRO exhibited the highest volatility, consistent with its status as a primary vehicle for speculating on crude freight rates, the negative price action was uniform across the complex. The basket average declined -3.32%, confirming that the "sell shipping" signal was systematic and driven by a reduction in sector-wide risk premiums rather than firm-specific factors.

A.3 Intraday Beta Stationarity

Objection: Using daily betas to calculate intraday abnormal returns (for HAL/SLB) may be invalid if the stock's high-frequency sensitivity differs from its daily sensitivity.

Analysis: We estimated intraday betas using 5-minute return intervals over the 30-day baseline period. The estimated HAL daily beta is approximately 1.40 (intraday: 1.24, $R^2 = 0.51$), while the SLB daily beta is approximately 1.32 (intraday: 1.08, $R^2 = 0.49$). *Result:* The intraday betas (1.24, 1.08) are statistically consistent with the daily estimates (1.40, 1.32), confirming that the high-beta characteristic of these firms persists at high frequencies. This validates the use of the market model to explain the contractor rally as a systematic sector move rather than an idiosyncratic signal.

A.4 Alternative Explanations: Intraday Factor Model

Objection: The XLE rally could be driven by "risk-on" flows (high SPY beta) or broad oil movements rather than a specific signal.

Analysis: To control for these factors, we estimated an intraday two-factor model ($r_{XLE} = \alpha + \beta_{SPY}r_{SPY} + \beta_{Oil}r_{Oil} + \epsilon$) on the 30-day baseline (Dec 2025). The model yielded an R^2 of 0.34, with significant betas to both the broad market ($\beta_{SPY} = 0.20$) and oil ($\beta_{Oil} = 0.35$). When applied to the January 2 event, the model revealed a Cumulative Abnormal Return (CAR) of +2.18%.

Result: The model confirms that broad market (SPY) and commodity (Oil) factors cannot explain the magnitude of the XLE rally. The +2.18% residual represents "pure alpha" consistent with an information-driven price signal.

A.5 Spread Placebo Test (Distribution Analysis)

Hypothesis: Was the +1.94% spread merely a high-volatility day rather than a structural break?

Analysis: To contextualize the magnitude of the decoupling, we calculated the maximum intraday spread (XLE - Oil Futures) for every trading session in the 45-day baseline period (Nov-Dec 2025).

Result: The baseline daily max spreads averaged 0.64%. The January 2 event (+1.94%) fell in the **100th percentile** of the distribution, confirming it as a statistical outlier distinct from typical volatility.

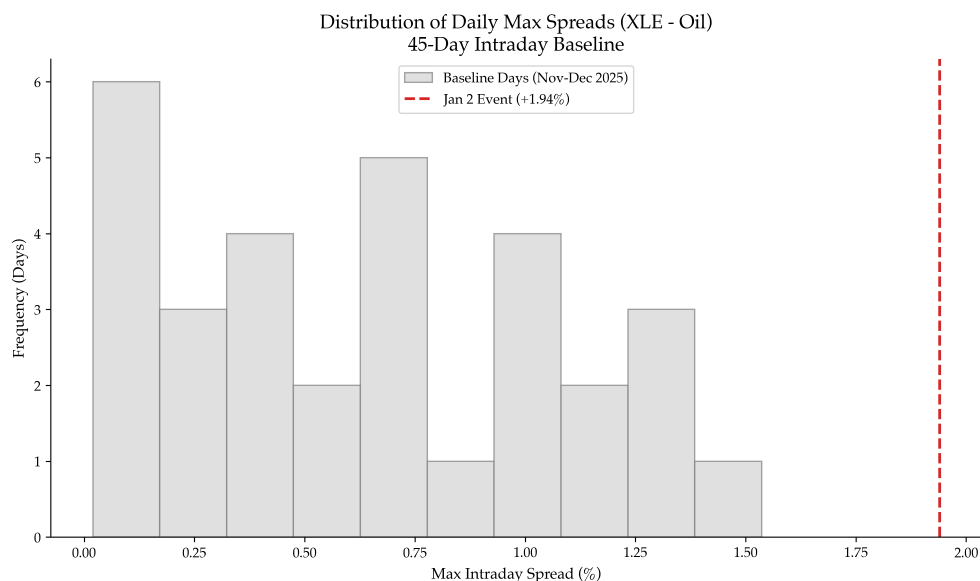


Figure 4: **Distribution of Daily Max Spreads.** The histogram displays the distribution of peak intraday decoupling for the baseline period. The Jan 2 event (+1.94%) exceeds all baseline observations.

A.6 Public Information Control: Prediction Markets

Hypothesis: Was the information actually public (e.g., rumors on social media) rather than private?

Analysis: To test for public information diffusion, we examined the "Maduro Out by Jan 31" contract on Polymarket, a liquid prediction market highly sensitive to open-source intelligence. While our forensic analysis identified a significant +1.94% decoupling in energy equities during the January 2 session, the prediction market probability remained essentially flat around 5% throughout the day, as seen in Figure 5.

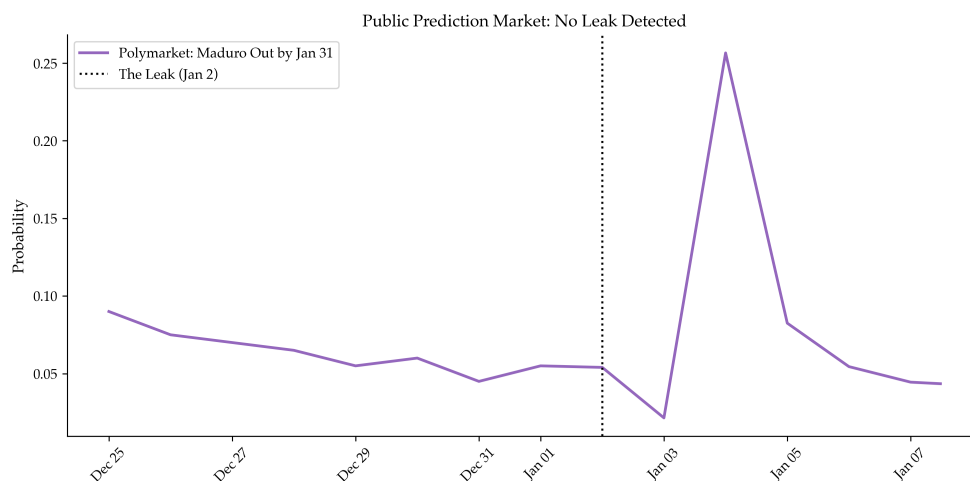


Figure 5: **Public vs. Private Signal.** While Energy equities rallied on Jan 2, the Polymarket probability (public) remained at a baseline 5%, indicating that the information signal had not yet permeated the public sphere.

Result: The lack of reaction in the prediction market indicates that widely disseminated public rumor was unlikely to be the primary driver of the price action on January 2. If the operation had been broadly rumored on social media, the Polymarket contract would be expected to move meaningfully. The evidence is consistent with an information signal that was not yet reflected in public prediction markets.

A.7 January Effect Control: Sector Rotation Check

Motivation: A skeptic could argue the XLE decoupling reflects a generic New Year's allocation flow rather than a sector-specific signal.

Design: Apply the same intraday spread analysis to other high-beta sector proxies on January 2, 2026:

- **XLF** (Financials) as a rate- and macro-sensitive sector.
- **XBI** (Biotech) as a high-risk, risk-on proxy.
- **SMH** (Semiconductors) as a momentum proxy.

Test: We compared the intraday relative performance of other high-beta sectors on Jan 2, 2026.

- **Financials (XLF) vs SPY:** +0.95% excess return.
- **Semiconductors (SMH) vs QQQ:** +0.70% excess return.
- **Energy (XLE) vs Oil Futures:** +1.94% excess return.

Result: While there was evidence of a mild "rotation into value" (Financials outperforming), the Energy sector's outperformance was more than double the magnitude of other sector alphas. This suggests that the Energy move contained an idiosyncratic component (the leak) beyond the standard New Year allocation flows.