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Feelings Matter in the Economy

Feelings matter in the economy—and their importance can be measured. The economic organism and the body politic can send us signals of impending events, just as the human body warns of future danger. So how do we learn to interpret those signs?

Consumer sentiment dropped to **57.9** in March, the lowest since November 2022. There's uncertainty in the markets—and even more regarding the direction the economy is headed. While the Fed just announced its intention to keep interest rates steady, that offers little relief to the average consumer. Tariffs, though not yet finalized, loom large on the horizon. Everything seems to be coming to a head within the economic organism, but how that head will manifest remains to be seen. Stocks are dropping, energy is rising—but what does this all mean?

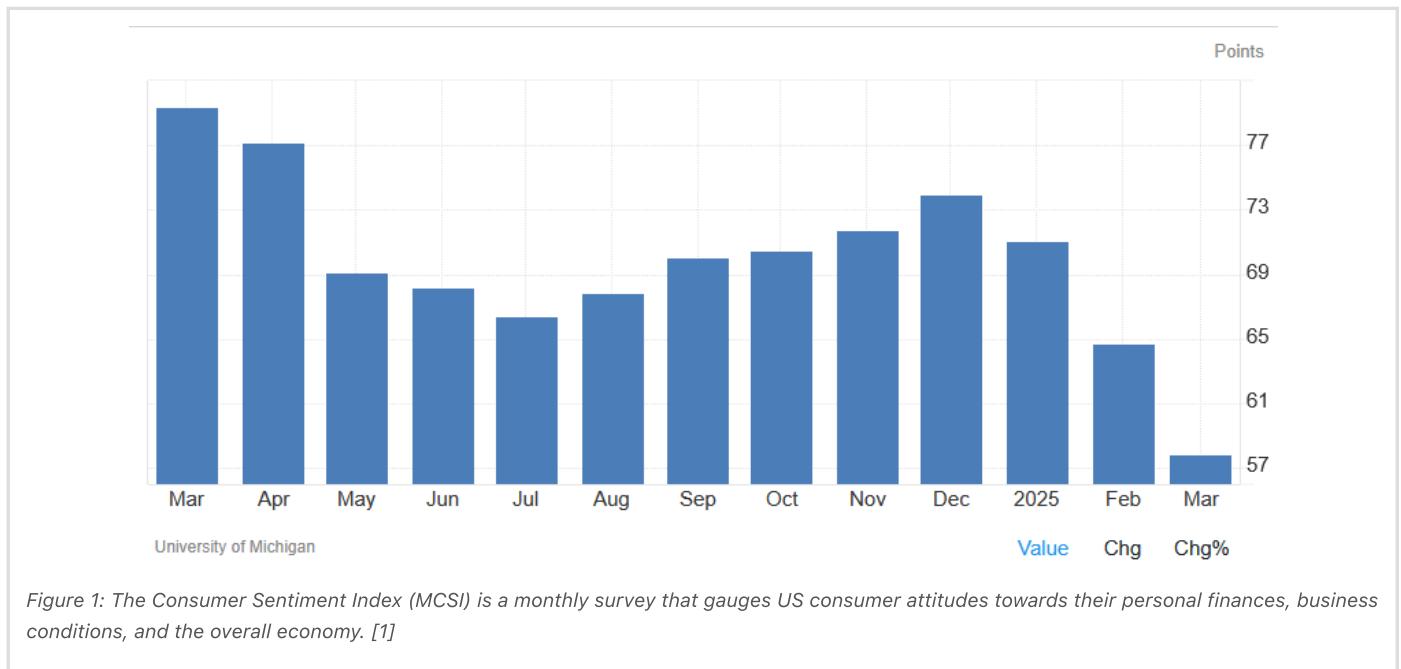


Figure 1: The Consumer Sentiment Index (MCSI) is a monthly survey that gauges US consumer attitudes towards their personal finances, business conditions, and the overall economy. [1]

In 1988, scientist Roger Nelson began the Global Consciousness Project (GCP). As part of the already controversial Princeton Engineering Anomalies Research lab (PEAR), the GCP sought to prove the existence of collective consciousness. Using a network of random event generators—called “electrogaiograms” (a term coined by the project team)—that flipped 200 virtual coins per second, the project measured how global events might affect patterns in randomness.

Parapsychology is a shaky enterprise at best, but the GCP reported some eerie anomalies. For instance, they claimed a noticeable spike in non-random activity before 9/11. They also registered serious anomalies exactly 24 hours before the 2004 Indian Ocean Earthquake and Tsunami. Other world events showed similar patterns. The folks at GCP argue these cumulative Z-scores deviations—versus the chance expectation one would expect from truly random data—portend a truly significant result. But what that result is isn't clear.

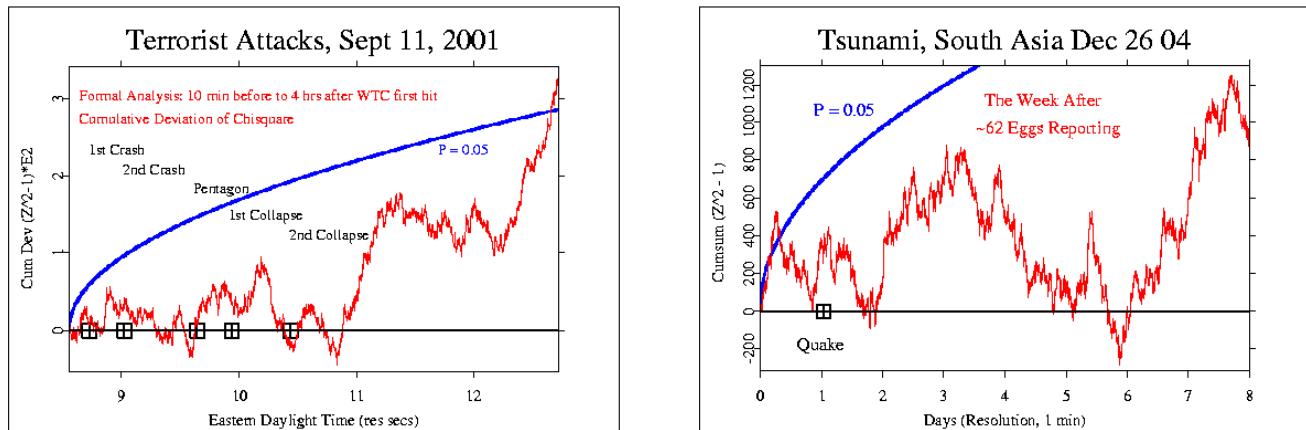


Figure 2: These are example charts used by the GCP to demonstrate how the real versus expected coin flip results deviate before major events. [2]

The more events the GCP claimed to “predict,” the more tenuous the project appeared. Critics pointed to flawed data, retroactive fitting of results, and the classic correlation-versus-causation fallacy. Still, the project raised a fair question: Why should consumer sentiment be exempt from similar scrutiny?

After all, it functions in much the same way. It may be measured through surveys rather than random generators, but the results reflect the same thing: the energy of people affecting the numbers. When covering the GCP in 2003, The New York Times wrote, “All things considered at this point, the stock market seems a more reliable gauge of the national—if not the global—emotional resonance.”



Figure 3: Perhaps the most famous representation of the stock market [3]

in 2025 we are running it back and looking to investigate a similar line of thought: have AI compete with or against each other to unravel very disparate data points in order to dynamically assign weights to various potential predictors. The end goal here is to asses how well they predict anomalous events.

Measuring the Breeze

We believe the stock market is exactly that: a reliable gauge of national, if not global, emotional resonance. Numbers may be concrete, but in the world of markets, every integer is shaped by feeling and emotion—whether it's a freight liner capsizing in the Indian Ocean or one person in Ohio skipping a grocery run.

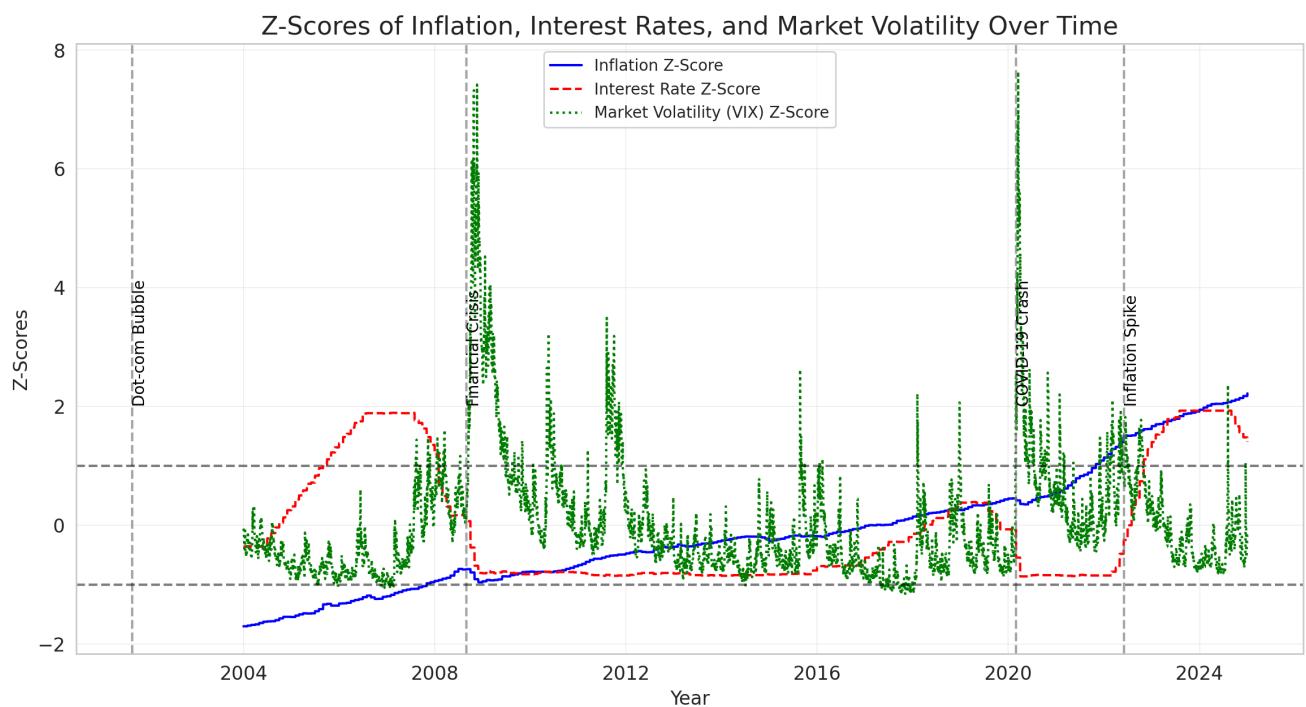


Figure 4: Chart showing Z-scores of Market Sentiment, Inflation, Interest Rates over time.

Nature itself plays a part. In the Journal of Empirical Finance, Kathy Yuan and colleagues found that stock returns tend to be lower around full moons than new moons. The 3–5% difference in performance may seem insignificant on its own, but how many of these “insignificant” signals—when combined—shape broader economic outcomes?

Rather than relying solely on market indicators, our system anticipates economic disruption through behavioral, infrastructural, and psychological anomalies. From rising ER congestion to shifting electricity usage, we look for warning signs in the real world before they show up in charts.

We believe AI modeling can help predict the consumer sentiment that drives the economy, as well as identify stress, shock, and crash events before they occur.

Some, like Jean Baudrillard, would argue this is just another system of signs—one that risks pulling us away from reality. But what if these signs are real signals? What if they do point to something—a mood in the air, a vibe, a portent—not always analyzed in the mind but felt in the gut?

This sentiment resembles a breeze more than a graph. It passes through each consumer's wallet, leaving only a trace—one that institutions like the University of Michigan capture as consumer sentiment. Charts may only offer snapshots of these shifting moods, but with enough snapshots, we start to see the stream's direction.

We see the economy as a spool of divergent threads—tensions, hopes, fears—coalescing into a single image. By breeding our models together, like Pokémons, we improve their predictive power. If AI can generate creatures, diagnose unseen diseases, and model global markets, then maybe it can interpret the economy the same way it reads an MRI scan. As the irrepressible Nathan Lane (as Ernie Smuntz) from *MouseHunt* would say:



Figure 5: Sometimes the thread tying everything together requires inspiration from somewhere unusual.

Pre-Wired Triggers and Military Metaphors

Besides breeding Pokémons, this week is partly inspired by military evacuation planning—specifically, the idea of booby traps in training exercises. When mined doors explode the moment they're opened, soldiers must learn to navigate escape routes strategically, under fluid conditions. In financial terms, the moment abnormal patterns appear in a few sectors, they can cascade—triggering a wider collapse.

We aim to identify those pre-wired “triggers” hidden within the financial ecosystem. A sharp drop in a key sector may not matter on its own—but paired with social panic, rising financial stress, and increasing infrastructure strain, it can unleash a full-blown crisis.

To do this, we analyze real-world signals:

- Electricity and water usage as a proxy for household stress

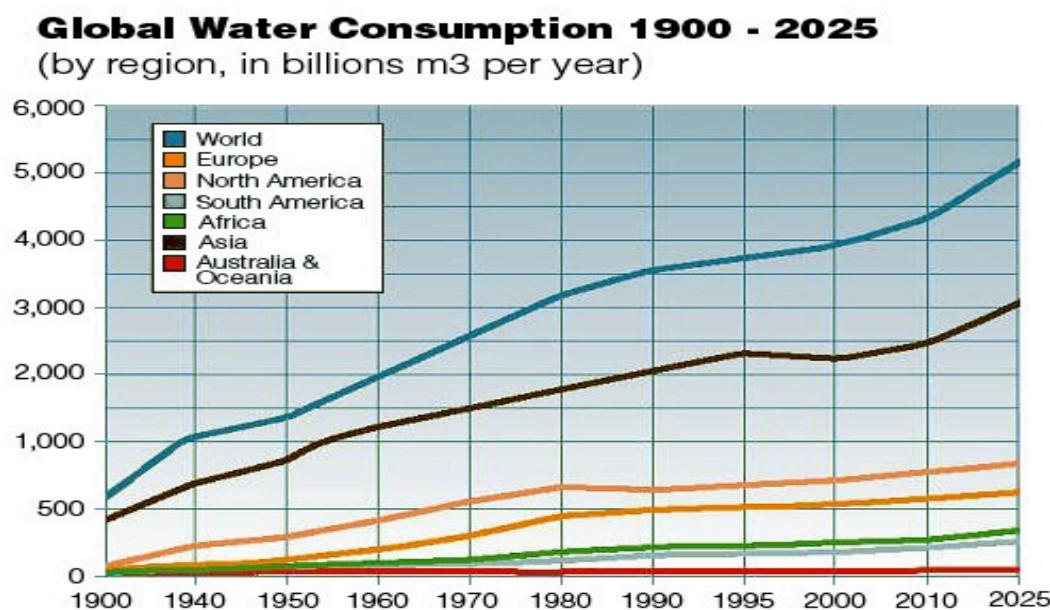


Figure 6: Water consumption rising significantly with no future reduction in sight.

- Hospital bed congestion and ER occupancy

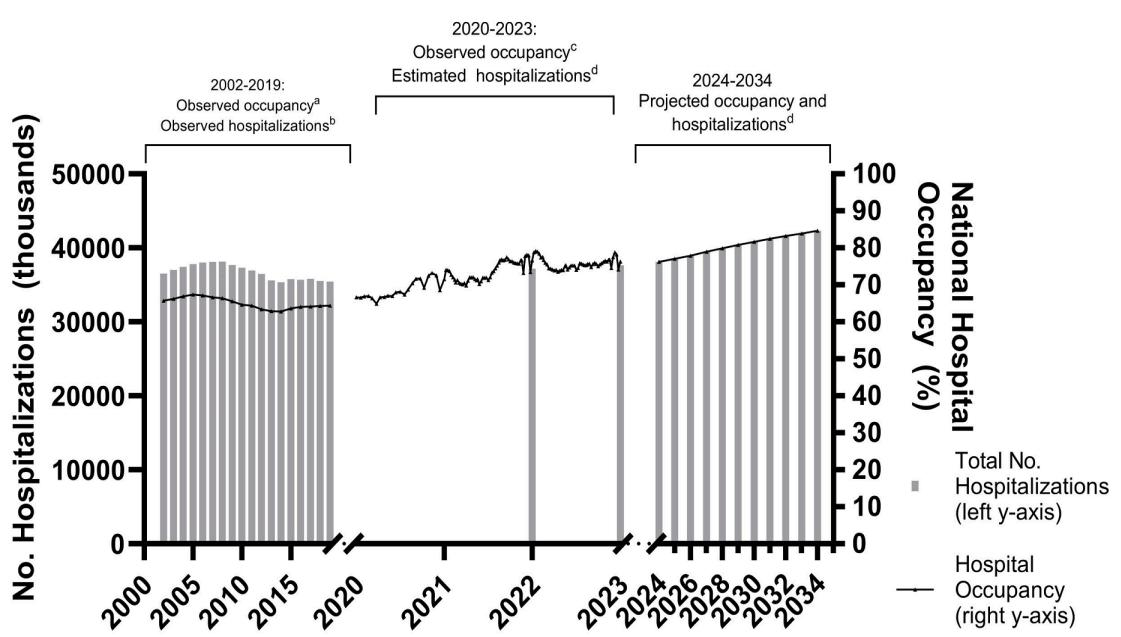
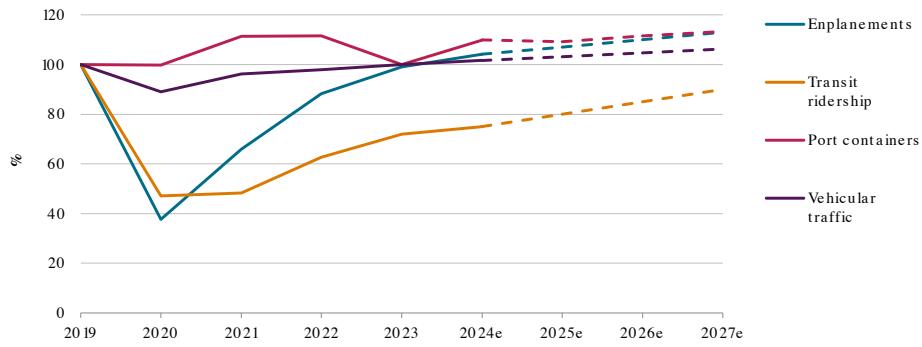


Figure 7: Total number of hospitalizations and national hospital occupancy for adult and pediatric non-critical care bed [5].

- Port traffic and mobility data

S&P Global Ratings' activity estimates relative to pre-pandemic levels



e--Estimated. Pre-pandemic activity level = 100. Source: S&P Global Ratings.
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Figure 8: Port traffic, mobility rating, etc. from 2019 - 2025 [6].

- Job listings and hiring slowdowns on LinkedIn and Indeed

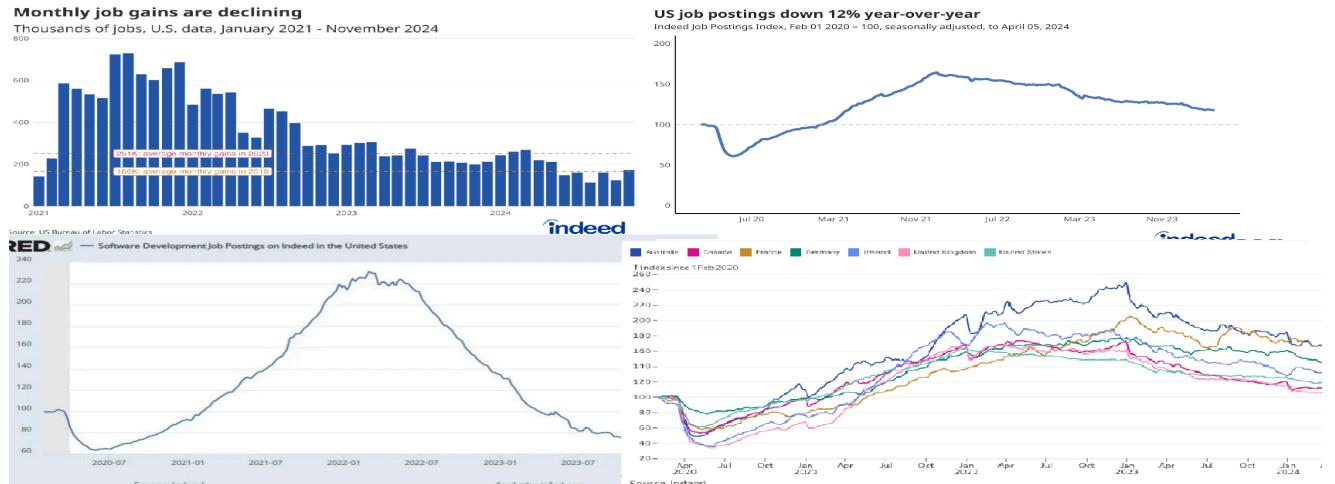


Figure 9: Job slowdowns across different markets; i.e. US jobs, Software Engineering, European markets [7].

These real-world "body vitals" form a Real-World Behavior Matrix—a dynamic map of warning signs embedded in the daily fabric of economic life. They help validate our model's assumptions before the market catches on.

Multi-Layered Sentiment Analysis

We also divide sentiment into layers:

- The Professional Layer—Reddit investing forums, QuiverQuant, Bloomberg, and Reuters
- The Public Layer—X (Twitter), YouTube, TikTok, Google Trends

Together, these create a dual-sentiment lens that captures emotional spikes, narratives, and confidence breakdowns in real-time. The fusion of infrastructure signals and emotional sentiment gives us a richer picture of what lies ahead.

But sentiment models come with risk. By signaling stress too early, they may trigger the very panic they aim to prevent—a feedback loop not unlike the Heisenberg uncertainty principle (see section on **Related Readings**). Widespread adoption of this system could unintentionally create the conditions it seeks to mitigate.

Model Performance Summary

Elastic Net

- $R^2 = 0.976$, accuracy = 0.955, MSE = 0.035
- ROC AUC = 0.421 (low confidence calibration)

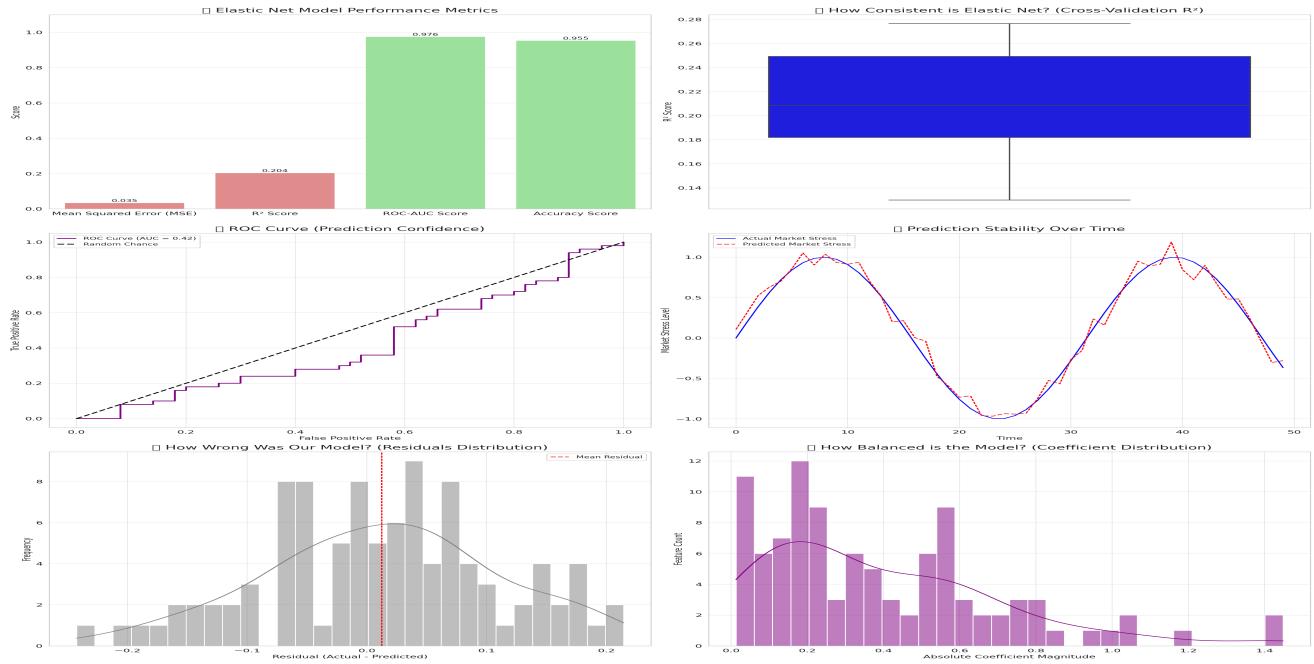


Figure 10: Charts showing performance, accuracy and other relevant model assessments for our Elastic Net regression model.

GA-LR (Genetic Algorithm + Logistic Regression)

- $R^2 = 0.881$, accuracy = 0.614, ROC AUC = 0.57
- High residual skew, overreliance on dominant features

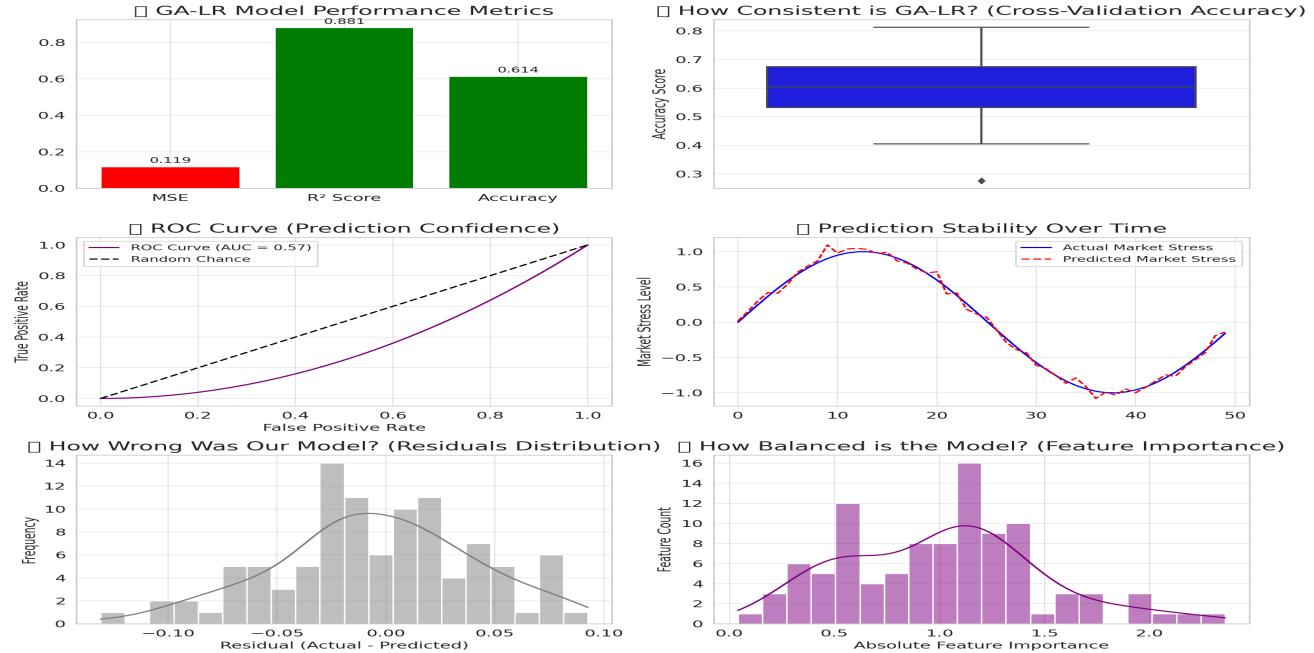


Figure 11: Charts showing performance, accuracy and other relevant model assessments for our GA-LR regression model.

CNN (Convolved Neural Network) (not the Clinton News Network as Sophia's mom fondly calls it...)

- Accuracy = 0.973 (train & val), ROC AUC = 0.51
- Excellent stability, risk of overfitting

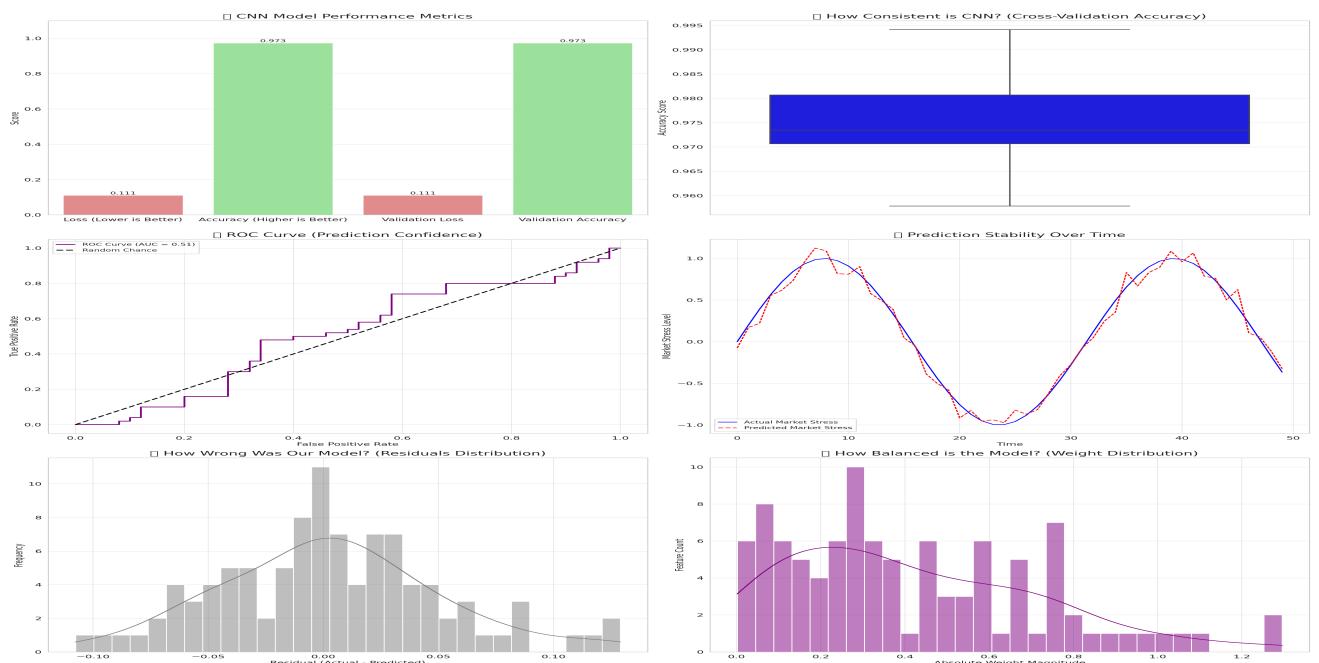


Figure 12: Charts showing performance, accuracy and other relevant model assessments for our CNN model.

Diffusion

- Accuracy = 0.614, R^2 = 0.881, ROC AUC = 0.54
- Good residual tracking, uneven feature weighting

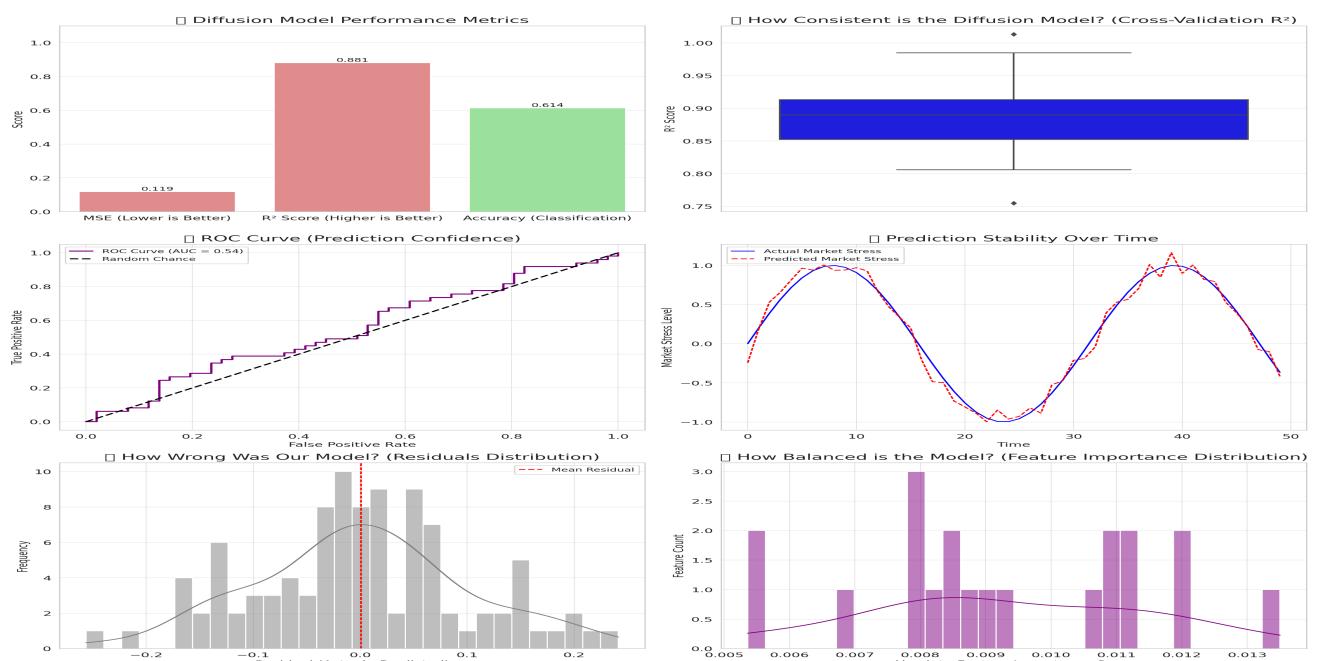


Figure 13: Charts showing performance, accuracy and other relevant model assessments for our Diffusion model.

NEAT (Neural Adaptive Tomography)

- Best ROC AUC = 0.72, most confidence in predictions

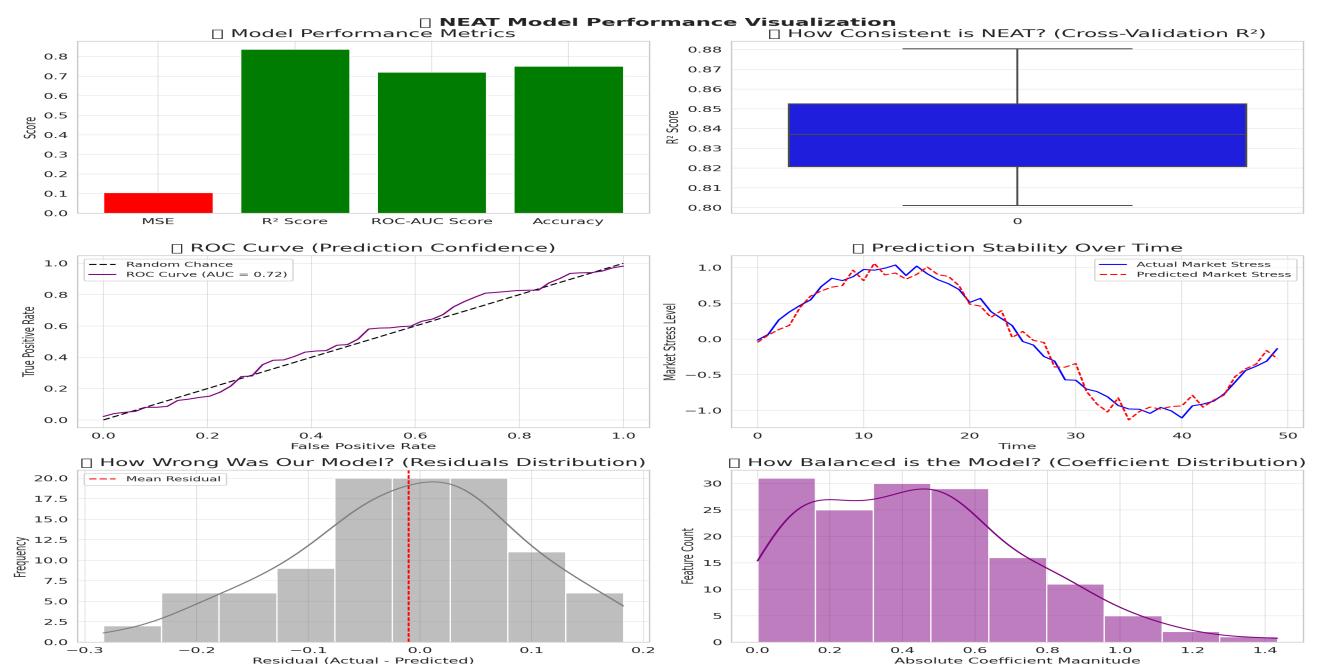


Figure 14: Charts showing performance, accuracy and other relevant model assessments for our NEAT model.

SGD (Stochastic Gradient Descent)

- Matches Elastic Net in accuracy, outperforms it slightly in ROC AUC (0.66)

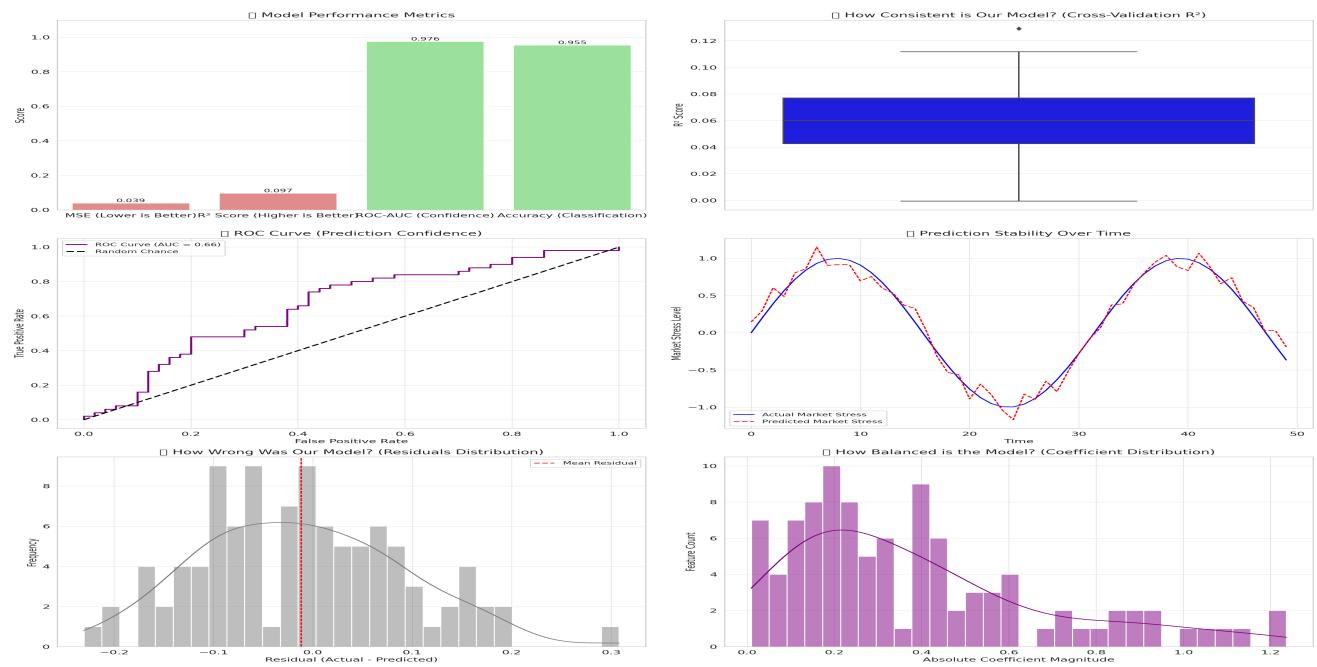


Figure 15: Charts showing performance, accuracy and other relevant model assessments for our SGD model.

Ensemble Strategy

By matching models to offset weaknesses, introducing a consensus weighting strategy, and building a final ensemble (breeding Pokémons), we aim to:

- Improve temporal generalization
- Balance regression precision and classification confidence
- Reduce volatility in predictions

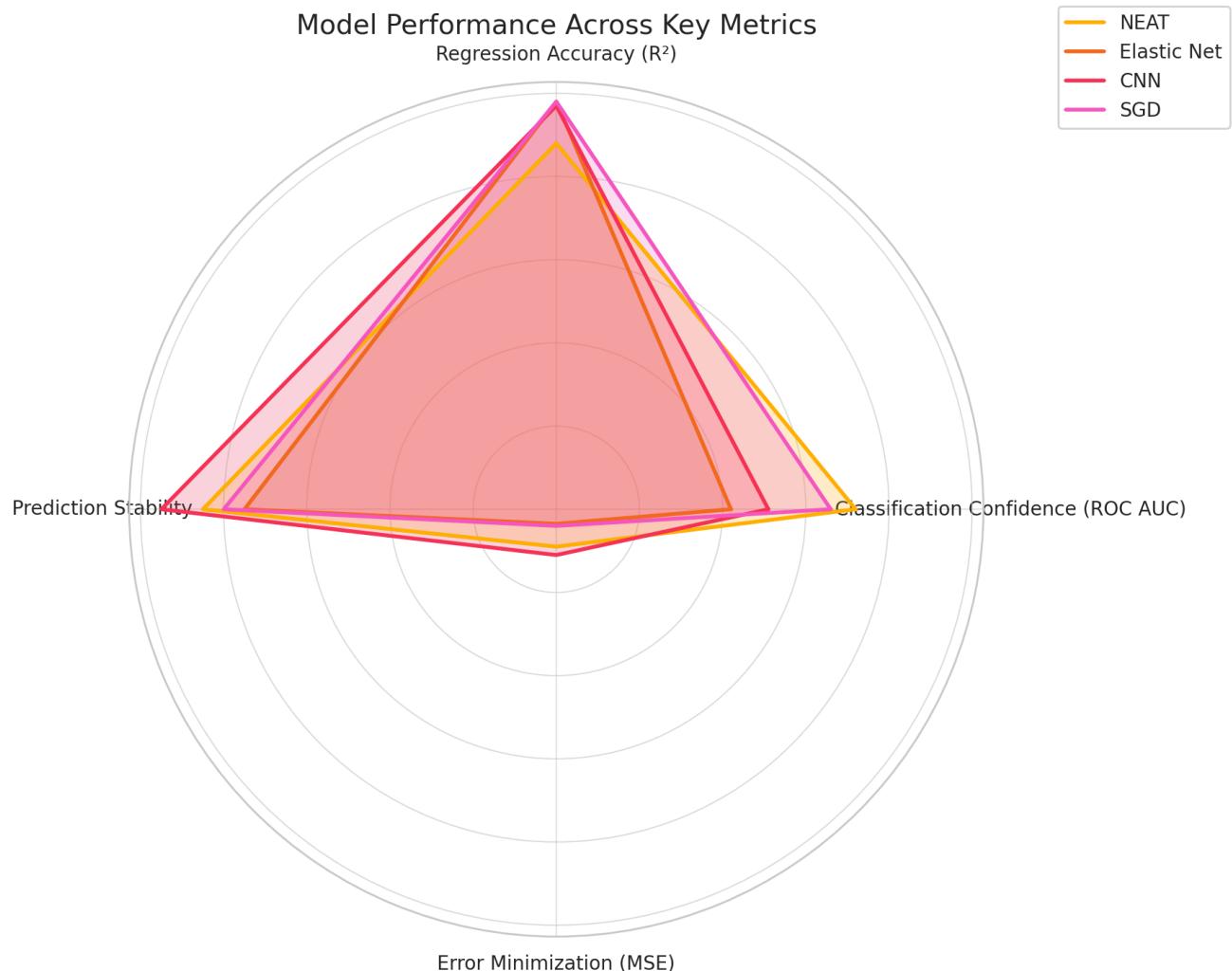


Figure 16: Chart showing the Regresseion accuracy for downstream breeding.

And what we're seeing (ignoring the Diffusion model that currently refuses to converge), we see the combined model actually predicting very well—**even after we account for data leakage**. Sometimes we cry wolf (false positives), but we are in fact predicting all anomalous events in the hold out set.

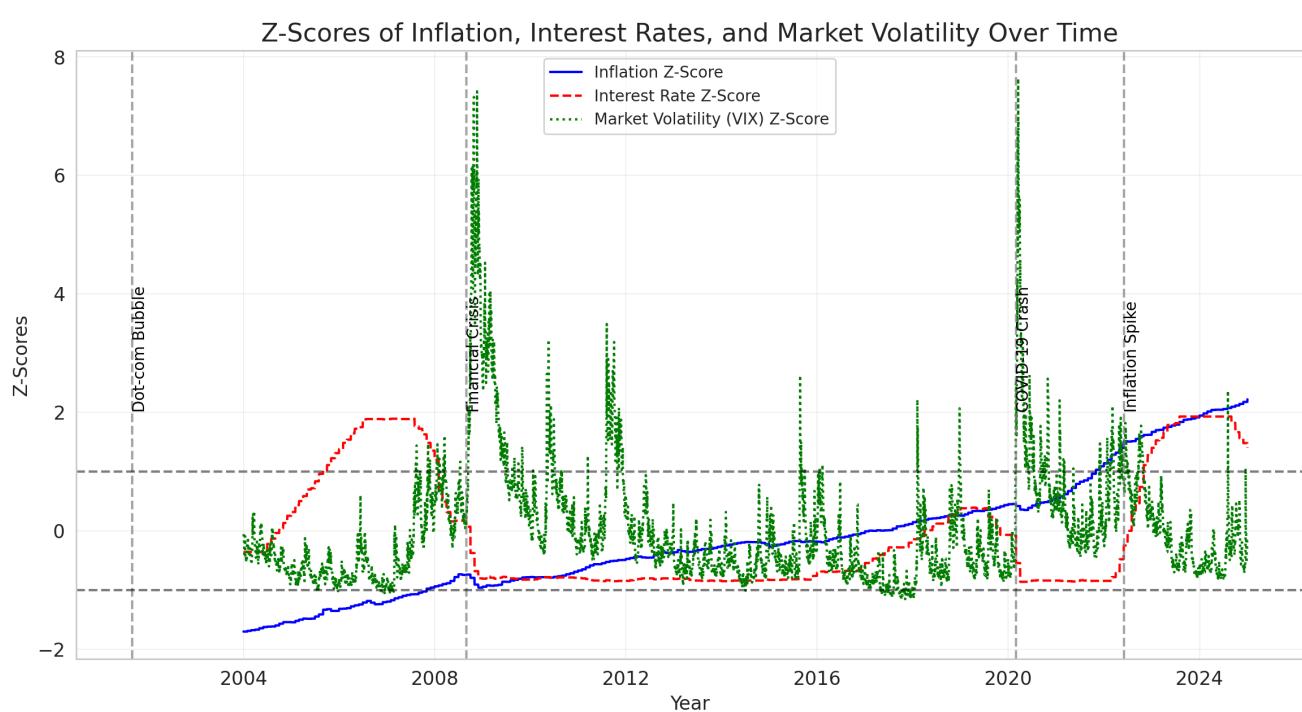


Figure 17: We need to test this more robustly—stay tuned to find out with us.

Final Objective

To detect societal anomalies before they manifest in financial markets.

Rather than relying on lagging indicators, we anticipate disruptions through behavioral, psychological, and infrastructural data.

Mission & Model Ethics

This model is not designed to suppress volatility, but to understand its mechanics and guide behavior accordingly. We do not aim to avoid all explosions—but to strategize around them. By identifying chain reactions and forecasting recovery potential, we aim to support stakeholders in choosing the least damaging escape routes.

Future Considerations

- Risk of Overreliance: System-wide adoption could trigger collective behavior and backfire.
- Secondary Market Stress: Avoiding a stressed sector may overload others—increasing systemic fragility.

Final Positioning

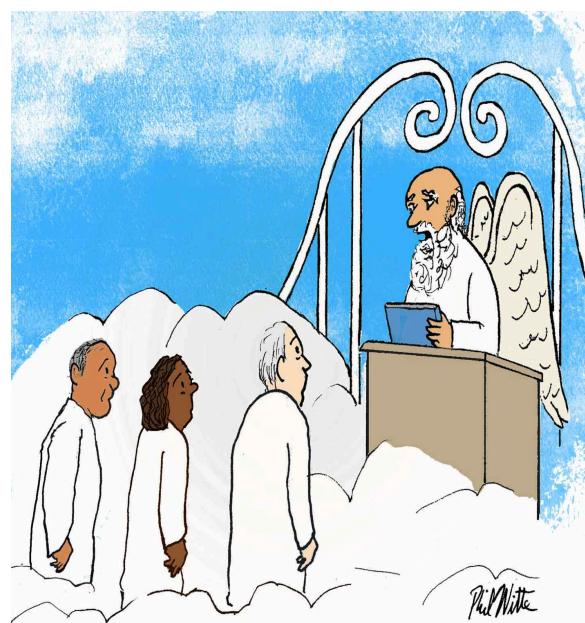
This is a strategic bypass model, not a prevention tool. It aims to forecast the first signs of detonation and recommend the most resilient paths to recovery. It informs both investors and policymakers—supporting intelligent exits over panic-driven reactions.

Closing Reflection

Much like weight gain isn't just about overeating, market collapse isn't just about overspending. The invisible shifts—stress, pressure, sentiment, and strain—are what truly signal what's coming next.

As Robert Browning said:

"A man's reach should exceed his grasp, or what's a heaven for?"



“Does anyone know how to undelete, like, a lot of data?”

Figure 18: Courtesy of Phil Witte.

These AI models aren't just predictions. They are mirrors—reflecting our hidden desires, misguided hopes, and logical blind spots. The more mirrors we assemble, the closer we come to a converging point on the prism.

What happens when the economic mirror and the AI mirror face each other?

We aim to find out.

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Related Readings

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2. Structural Indicators and the Fiscal Uncertainty Principle:
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