

# Prediction Markets as an Information Layer

## *Part 1 of 6: From Opinion to Price*

Author:

**Joseph Perez**

Independent Researcher and Founder — Prediction Markets & Information Systems

The views expressed are those of the author and do not necessarily reflect the views of any affiliated platform or organization.

## **Abstract**

Prediction markets are almost always discussed as though their primary function is to predict. The intuition is appealing, the framing is common, and it is deeply misleading. Prediction markets that are working well don't predict. They're an information layer: a system that aggregates dispersed belief under incentive constraints, and expresses that aggregation as price.

Polls, expert commentary, media analysis: none of these require belief to be staked. Consequence is abstracted out. Prediction markets, well-understood, are different. This is the first paper in a series on how to understand, use, and build on prediction markets. The series reframes prediction markets, not as forecasting tools to be evaluated on accuracy, but as systems that make collective belief legible under constraint. The difference matters for anyone trying to use prediction markets seriously: as a decision tool, a research instrument, or as infrastructure to build on.

## **I. Why We Keep Getting This Wrong**

Prediction markets have been visible to me since 2023, and I've been watching, building trading infrastructure on top of them through Spredd Markets, a UI and routing layer that connects Polymarket and Kalshi to ecosystems that aren't natively supported, since last fall. The longer I work on them, the more I see a consistent pattern of misunderstanding prediction markets not just from people outside the space but from people who should know better.

Prediction markets tend to appear at moments of uncertainty. The election is approaching, or the economic data is coming out, or geopolitical tensions are rising, and suddenly the market prices start circulating as shorthand for what's going to happen. The markets get briefly visible, and almost immediately misread.

The first misreading is to treat the markets as gambling. Money, risk, uncertain outcomes: the pattern matches with casinos, sports betting, so the common assumption is that the markets are the same. Prices get dismissed as excitement, or fear, or a kind of herd behavior. When markets are right, it's treated as luck rather than structure.

The second misreading treats markets as polls in disguise. Prices get taken as opinions aggregated from a self-selected population and subjected to the usual critiques: biased, unrepresentative, vulnerable to groupthink, or whatever. Polls get taken as objective, so when markets diverge, one gets declared wrong without anyone clarifying what each system is actually measuring.

The third misreading treats the market as a single expert. Prices get reported as authoritative statements, and when they are spectacularly wrong (or just miss) critics ask why "the market"

failed. As though there were a thing that decided, when in fact markets are shifting equilibria of different participants with different information, incentives, and time horizons.

Each of these misreadings captures something superficial about markets, but not what matters.

Prediction markets aren't entertainment, or opinion measurement, or expert judgment. They are systems where belief gets expressed through action, and action has consequence. Markets don't ask what you think, they ask what you're willing to stand behind with money, knowing that being wrong will cost you. Confidence without conviction has little effect. Conviction without accuracy doesn't persist. The remainder isn't consensus: it's a weighted aggregation of belief filtered by incentive and survival.

## **II. What Markets Actually Measure**

The temptation is to say prediction markets measure probability. The phrase is handy and it's misleading. Market prices aren't measurements, at least not in any scientific sense. They aren't claims about objective truth.

It's better to think of them as belief equilibria: the point at which participants given their information and incentives are indifferent between buying and selling exposure to an outcome.

This gives us the best answer to the question of why markets behave the way they do: prices shift when new information comes in. But they also shift when attention shifts, when a narrative gains traction, when people reassess risk. None of this is necessarily irrational. It just implies markets respond to belief, not just data.

The 2024 US presidential election made this concrete. In the final weeks, Polymarket and Kalshi both consistently showed Trump with a significant lead while national polls showed a toss-up. Commentators treated this as a contradiction: one had to be wrong. In fact they were measuring different things. Polls asked who people said they would vote for if the election were today.

Markets asked a very different question: given everything you know and believe about turnout, state-level dynamics, and polling error, what are you willing to stake on the outcome?

The market was not predicting Trump would win the election. The market was reflecting that participants with money at risk believed Trump was more likely than the polls suggested, and were willing to back that belief with real capital.

When the result came in, both the market and the polls had been "correct" in their own terms. The polls had accurately captured stated voter preference. The market had accurately captured

incentive-weighted belief about the outcome. Treating one as a correction of the other misses what each system was actually measuring.

### **III. How Belief Becomes Price**

Prediction markets convert belief into price through incentives, but incentives by themselves don't tell you very much about how a market will behave. Belief is filtered on its way to price through risk tolerance, time horizon, capital constraints, and access.

Someone who believes an outcome is 60% likely but can't afford to lose their stake won't move the market as much as someone who believes it's 55% likely but has deep pockets and a long time horizon. Persistent error becomes expensive. Alignment with outcome gets rewarded. Over time, participants who are consistently wrong lose capital and influence; participants who are consistently right accumulate both.

This is the survival filter that makes markets informative. But this filter is fragile. It requires open participation: if only certain types of people can trade, the pool of belief is distorted. It requires credible resolution: if participants don't trust the outcome will be judged fairly, they price that risk into their actions. It requires sufficient liquidity: thin markets can be moved by individual actors in ways that reflect conviction rather than collective belief. When any of these conditions breaks down, the aggregation degrades. Prices lose informational value. The market stops being an information layer, and starts being something else: a game, a signal, a tool for manipulation.

### **IV. Why Accuracy Is the Wrong First Question**

When prediction markets get attention, the first question is almost always: were they right? It's an understandable question and it's mostly a useless one. Accuracy is an outcome, not a mechanism. A market that prices an outcome at 70% and is wrong isn't broken, it correctly signaled that the outcome was uncertain. A market that prices an outcome at 99% and is right may have been offering false precision that happened to land.

The right question is calibration: over many events priced at 70% do roughly 70% of them come to pass? A well-calibrated market is useful even when individual predictions are off, because it's giving you honest odds. A poorly calibrated market is unreliable even when it happens to be right, because you can't trust the signal.

Which is why post-hoc accuracy debates are always missing the point. "The market said 60% and the event happened, so the market was right" is not how probability works. Neither is "the

market said 60% and the event didn't happen, so the market was wrong". The market said there was a 40% chance of the alternative. Sometimes 40% chances happen. That's what 40% means.

## **V. Markets vs. Polls vs. Experts vs. Narratives**

Different information sources operate under different constraints, and those constraints determine what they can tell you.

Polls measure stated sentiment at a point in time. They're valuable for understanding what people say they believe, less valuable for understanding what they will actually do. There's no downside to being wrong in a poll, you can tell a pollster whatever you want. Polls also have structural challenges right now: response rates have collapsed, sampling is more difficult than it used to be, and the weighting decisions that pollsters need to make to account for these challenges embed hard assumptions that may not be true.

Expert forecasters operate under reputational incentives, which is both a strength and a weakness. Good forecasters build track records, but reputation is also a force toward safety and consensus. Being wrong in conventional ways is less costly than being wrong in unconventional ways. Experts also tend to provide reasoning for their judgments, which is valuable for understanding but can anchor on a narrative that the data may not support.

Media narratives are different again. They have incentives that reward clarity and engagement. A story that says "this is uncertain and could go either way" doesn't travel as well as "this is what's really happening". The incentives push toward confident interpretation, even in situations that are genuinely unclear.

Prediction markets have a different logic. They reward correct belief over time, regardless of explanation, status, or narrative appeal. You can be anonymous, contrarian, and inarticulate if you're right, you profit. This isn't to say markets are superior in all cases, only that they're different and therefore complementary. The mistake is treating them as substitutes and arguing about which one to trust.

## **VI. Reflexivity and the Attention Problem**

Markets don't just aggregate belief, they shape it. A price that moves can change the narrative. The new narrative can change behavior, which moves the price further. Reflexivity. The pattern is common enough that it gets mistaken for irrationality, or manipulation.

In the 2024 US election, for example, prices on prediction markets moved, and their movement became news. Polymarket started showing Trump pulling away, and the fact that this was visible

to anyone became a story, which influenced people's perception of the race, which may have influenced their behavior. Critics treated this as a failure, the market was creating reality rather than measuring it. But that isn't unique to prediction markets. Polls do it too. So do endorsements, media coverage, and campaign advertising. Any publicly visible signal about an uncertain outcome becomes part of the informational environment.

The difference is that prediction markets are explicit about what they're doing. A price is a price; you can see it, trade against it, profit if it's wrong. Narrative effects are less observable, less arbitrable. If anything, markets make the reflexivity more visible, not more problematic.

## **VII. The Compression Problem**

A prediction market compresses information. News, analysis, private knowledge, intuition, modeling; markets take it all in and squeeze it into a single number. That compression is both the point of it and the risk.

The point is legibility. Instead of needing to synthesize dozens of polls, expert opinions, and news stories, you get one price that reflects the current state of incentive-weighted belief. For decision-making under uncertainty, that's powerful.

The risk is that a single number invites overconfidence. "The market says 65%" sounds like a precise estimate in a way that "the situation is genuinely uncertain with maybe a slight lean toward one outcome" does not. Humans are suckers for number anchors. They treat 65% as meaningfully different from 60% even when the underlying uncertainty might not support that distinction. They forget that the price is a point-in-time reflection of current belief, not a stable fact about the world.

Using prediction markets well means holding the number lightly: not taking it as an answer to be trusted, but as a signal to be interpreted. This is harder than it sounds, especially when stakes are high and the desire for certainty is strong.

## **VIII. Why This Matters Now**

Prediction markets are now hard to ignore. Polymarket alone processed over \$3.3 billion on the 2024 presidential election. Kalshi won its court battle and is live with US election contracts. The New York Times is partnering with an exchange to display prices in the pages next to polls. Goldman Sachs, Renaissance, Guggenheim are all investigating and possibly jumping in.

Institutional demand is coming.

That visibility is good. It brings more use, more scrutiny, and therefore more questions, some of which are not helpful. The dynamics that make prediction markets useful in the first place: their legibility, their real-time updates, their seeming precision, also make them easy to misuse. A prediction market price treated without context is an authority claim. A price that moves gets reported as if it was a thing in itself rather than an equilibrium of incentives and beliefs. A price that misses is treated as evidence that markets don't work.

This paper sets up prediction markets as information layer, not forecasting tool, is an attempt to provide a more durable basis for talking about prediction markets. Markets aren't oracles. They're systems that make collective belief legible under constraint. Building on that is the first step toward using them responsibly.

## **Conclusion**

Prediction markets don't predict the future. They measure collective belief under constraint, and express that measurement as price.

When interpreted properly, they provide disciplined signals about uncertainty: signals that can improve decision-making, without (and here's the key part) pretending to eliminate doubt. When misinterpreted, they become ersatz authorities, convenient narratives, or ammunition for post-mortem arguments about who was right.

The rest of this series will examine market structure and how it shapes signals (Part 2), resolution mechanisms and the different kinds of trust they require (Part 3), and how builders and institutions can use prediction markets more effectively (Parts 4-6). But the foundation is here: markets are an information layer. Everything else follows from taking that seriously.

## **References**

Hayek, Friedrich A. "The Use of Knowledge in Society." *American Economic Review* 35, no. 4 (1945): 519–530.

Hanson, Robin. "Shall We Vote on Values, But Bet on Beliefs?" *Journal of Political Philosophy* 21, no. 2 (2013): 151–178.

Tetlock, Philip E. *Expert Political Judgment: How Good Is It? How Can We Know?* Princeton University Press, 2005.

Berg, Joyce, Robert Forsythe, Forrest Nelson, and Thomas Rietz. "Results from a Dozen Years of Election Futures Markets Research." *Handbook of Experimental Economics Results*, 2008.

Taleb, Nassim Nicholas. *Skin in the Game: Hidden Asymmetries in Daily Life* . Random House, 2018.

Direct observation and development work on Kalshi and Polymarket through Spredd Markets, 2023–present.