Prediction Markets: Theory, Evidence, and Two Contemporary Platforms (Polymarket & Kalshi)

Prediction markets are exchange-like mechanisms in which participants buy and sell shares whose payoffs depend on the outcomes of future events. Their prices can be interpreted as crowd-implied probabilities and, under certain conditions, can be accurate forecasters that often outperform polls and expert judgment.

1. Introduction and definition

A **prediction market** is a marketplace where participants trade contracts tied to the outcome of a future, verifiable event (e.g., “Candidate X wins” or “CPI > 3.5% in month Y”). Contracts typically pay a fixed amount (e.g., $1) if the outcome occurs and $0 otherwise. The contract trading price can be read as the market-implied probability of the event. These markets aggregate dispersed information through incentives and trade, producing continuously updated probability estimates.

2. Theory and empirical performance

Theory predicts that markets can aggregate private information: rational traders with diverse information will trade, moving prices towards consensus beliefs. Empirical studies and literature reviews (spanning experimental markets, internal corporate markets, and open exchanges) generally find that market-derived probabilities are well-calibrated and often outperform single-source forecasts, polls, and some statistical models. Performance depends on liquidity, question clarity, and incentives.

Keep in mind: low liquidity and ambiguously worded contracts can impair accuracy. Although manipulability is a valid concern, empirical evidence indicates that prediction markets tend to remain robust when both stakes and participation are sufficiently high.

3. Metrics to evaluate a prediction market

When assessing a market or platform, consider:

- **Accuracy:** Brier score, log score, and hit rate vs. realized outcomes.
- **Liquidity and depth:** bid-ask spreads, market volume, and available counterparties.
- **Resolution rules:** clarity about how outcomes are judged and who has final authority.
- **Incentives & fees:** how fees, payouts, and mining/market-making affect participation.
- **Regulatory environment & legal risk:** whether the platform is permitted to operate in target jurisdictions.

These metrics determine whether a platform produces reliable probability estimates and whether it is usable in practice by researchers, firms, or the public.

4. Polymarket

Overview & product model. Polymarket is a large, event-driven prediction market platform that historically used on-chain mechanics (crypto-based trading) and binary YES/NO markets where winning shares pay a fixed amount upon resolution. The platform emphasizes real-time probabilities across topics such as politics, macro, and events.

Recent developments & regulatory path. In 2025, Polymarket took concrete steps to (re)enter the U.S. regulated space by acquiring QCEX (CFTC-licensed derivatives exchange and clearinghouse) and received regulatory clearance to relaunch U.S. operations after previously suspending them. This acquisition and accompanying regulatory engagement have been widely reported in the business press. Such moves change Polymarket's operating model from purely offshore/crypto to a hybrid that can comply with derivatives regulation in the U.S. market.

Design implications: Polymarket's shift toward regulated infrastructure may increase institutional participation and liquidity, but it also subjects product design to limitations imposed by regulators.

5. Kalshi

Overview & product model. Kalshi is a U.S.-facing, regulated exchange that offers binary "event contracts" (settling to $1 if an event occurs, $0 otherwise), and positions itself as a regulated marketplace for trading the future across economic, political, and sports topics. Kalshi's public materials emphasize that contracts are structured like financial contracts and settle on verifiable event outcomes.

Regulatory status and controversies. Kalshi is regulated by the CFTC as a designated contract market (DCM). Its approval to offer certain event contracts (notably election markets) represented a milestone because it established a pathway for event-based contracts under the Commodity Exchange Act. Kalshi's expansion into sports-related contracts generated debate. Industry groups and policy stakeholders have questioned whether sports-event contracts overlap with state-licensed gambling; Kalshi and the CFTC have framed these contracts as regulated financial contracts rather than gambling. The regulatory posture and any CFTC guidance are pivotal for the industry's scope.

Implications for accuracy and participation. Being a regulated exchange allows Kalshi to attract both retail and institutional traders and to implement market safeguards that boost confidence, but it must also follow stricter listing, reporting, and compliance rules that can limit the speed of product innovation.

6. Comparative analysis: Polymarket vs Kalshi

- **Regulation:** Kalshi operates as a CFTC-regulated exchange; Polymarket historically operated offshore/crypto but has moved toward compliance via acquisition and regulatory engagement. This divergence affects allowable product scope and institutional access.

- **Technology stack:** Polymarket's roots are crypto-native and permissionless markets; Kalshi uses conventional exchange infrastructure with formal clearing. The technical approach affects settlement speed, custody, and user onboarding.

- **Market reach:** Polymarket historically drew a crypto-native global crowd and real-time attention, while Kalshi's regulated status focuses on U.S. users and institutional market structure; both models can result in high liquidity if supported by market makers and media attention.

7. Policy and research implications

1. **Design for liquidity:** For reliable forecasting, platform designers should encourage diverse participation (retail + institutional market makers) and reduce frictions (low fees, efficient matching). Empirical results show that prediction markets need sufficient trade volume to beat naive benchmarks.

2. **Resolution clarity:** Ambiguous questions produce noisy prices; explicit resolution criteria and independent arbitration improve signal quality. Platform policies and public documentation must be precise.

3. **Regulatory framing matters:** Platforms that secure formal regulatory status (or voluntarily comply with financial rules) can open access to larger pools of liquidity but must navigate legal constraints (e.g., product scope, reporting). Kalshi's DCM status and Polymarket's regulatory moves illustrate how legal posture shapes product design.

8. Conclusion

Prediction markets remain a promising tool for collective forecasting. Their performance depends heavily on market design, liquidity, question clarity, and the legal environment. Kalshi demonstrates one path – regulated, exchange-style contracts, while Polymarket represents a

hybrid crypto-origin story evolving toward regulated infrastructure. Both platforms offer a great opportunity for research on market adjustments, liquidity behavior, and the balance between fostering innovation and protecting consumers.