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Anchoring and Recency Bias in Trading Why the Past Still Controls Your Next Move—A Narrative Review

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Anchoring and Recency Bias in Trading Why the Past Still Controls Your Next Move—A Narrative Review

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Abstract

This narrative review integrates evidence on how anchoring and recency biases influence trading by integrating foundational heuristics research, resource-rational accounts, neurocognitive findings, empirical market studies, and practical debiasing strategies. At the cognitive level, anchoring arises from representativeness, availability, and adjustment heuristics and can reflect a resource-rational under-adjustment when cognitive resources are limited. Neurobiological data implicate right dorsolateral prefrontal cortex in controlled retrieval and adjustment, medial prefrontal cortex in self-based anchoring, and vmPFC–hippocampal circuits in value-weighted episodic consolidation that amplifies recency effects. Market- and firm-level evidence shows that anchored forecasts (for example, analysts referencing industry medians) produce systematic forecast errors and concentrated return patterns around information events, while recency-biased learning at the population level can generate amplified boom–bust price dynamics and help explain observed momentum and long-horizon reversals. Practical interventions span choice architecture and nudges, adviser-facing informational and visual tools, procedural safeguards that slow and structure decision-making, and formal training; experimental neuromodulation provides causal proof of principle but field effectiveness requires further evaluation. Collectively, the reviewed sources portray anchoring and recency as tractable consequences of bounded cognition amenable to layered, evidence-based mitigation.

Keywords: anchoring bias; recency bias; behavioral finance; decision-making; debiasing interventions; DLPFC; asset pricing

Background

Anchoring and recency influences in financial decision making arise from core heuristics of human judgment. Tversky and Kahneman identified representativeness, availability, and adjustment from a starting point as central operations and showed that these operations, while economical and often effective, produce systematic and predictable errors in probability, frequency, and numerical judgments [1]. The adjustment process explains why numerical estimates are drawn toward an initial value and why such estimates can remain biased [1]. In investor contexts these heuristics combine with cognitive illusions to shape expectation formation and retrospective evaluation. Kahneman and Riepe document that hindsight bias and memory distortions prevent accurate reconstruction of prior beliefs after events, that these distortions foster overconfidence, and that they make outcomes appear more predictable in retrospect; these effects contribute to investor regret and to distorted evaluations of past advice [2]. Lieder et al. [3] advance a resource-rational account in which under-adjustment from an anchor reflects an efficient allocation of limited time and cognitive resources; their formal model explains many anchoring phenomena, including the roles of cognitive load, anchor extremity, uncertainty, and differences between externally provided and self-generated anchors. Khamlichi et al. [4] bring together experimental and applied findings and emphasize that anchoring appears in numerical and non-numerical forms, arises from internal and external sources, and depends on attention, memory recall, and cognitive load; they further document anchoring's strong effects on

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perceived value, willingness to pay, and choice in marketing and consumer contexts. Shiller situates these individual mechanisms within behavioral finance and argues that psychological and social-science insights are needed to explain market anomalies such as excess volatility and speculative bubbles and that anomalies may appear, disappear, or reverse over time without implying full market rationality [5]. Taken together, the supplied literature locates anchoring and recency-related effects at the intersection of heuristic judgment, bounded cognitive resources, and market psychology: anchoring is both a proximate adjustment process and, from a resource-rational perspective, an adaptive response under constraint, while availability and memory processes link recent or salient events to biased expectations that can influence trading decisions and aggregate outcomes [1–5].

This review will integrate foundational descriptions of heuristics and biases, resource-rational formalizations of anchoring, and contemporary narrative review of cognitive mechanisms to clarify how anchoring and recency effects arise in trading, to trace their behavioral and market consequences, and to evaluate evidence for interventions and practical tools to mitigate these biases in trading decisions.

Cognitive Mechanisms and Neurobiology

Anchoring in judgment and valuation can be understood as arising from a set of selective retrieval and activation processes that shape which information is brought to mind and how it is used. Empirical work conceptualizes anchoring as the selective accessibility of working-memory content or as an activation process in which anchors increase the availability of features shared by anchor and target while reducing the salience of dissimilar features; prompting consideration of features that differ from the anchor reduces the bias, whereas merely highlighting the anchor's uninformative status does not reliably eliminate it [6,7]. These characterizations place memory retrieval and feature activation at the cognitive core of anchoring: an initial value or reference point guides which attributes are mentally foregrounded and therefore which evidence informs subsequent numerical or evaluative judgments [6].

Neurobiological studies localize components of these cognitive operations to prefrontal systems involved in memory retrieval, self-referential processing, and adjustment. Modulating cortical excitability over the right dorsolateral prefrontal cortex (DLPFC) using transcranial direct current stimulation (tDCS) produced systematic changes in anchoring: anodal stimulation of right DLPFC diminished anchoring effects in willingness-to-pay tasks, whereas cathodal stimulation increased anchoring [7]. These causal manipulations support the interpretation that right DLPFC activity contributes to selective retrieval or controlled adjustment processes that attenuate the pull of an initial anchor. In parallel, functional MRI evidence implicates the medial prefrontal cortex (MPFC) in anchoring-and-adjustment during social inference: MPFC activity tracked the discrepancy between a perceiver's own responses and their judgments about another person, consistent with the self-serving as an initial anchor and successive neural computations effecting serial adjustments away from that starting point [8]. Together, the DLPFC and MPFC findings suggest a division of labor in which self-derived anchors are instantiated in medial prefrontal representations while dorsolateral prefrontal regions support retrieval and corrective adjustment processes that can either reduce or fail to fully overcome the initial anchor [7,8].

The incorporation of value and affect into memory systems further explains why recent or salient experiences exert disproportionate influence on later trading decisions. Anatomical and functional connectivity between orbitofrontal/vmPFC regions and the hippocampus routes reward- and emotion-related information into episodic memory, enabling episodes with strong value components to be preferentially recalled and to shape semantic and autobiographical representations over time [9]. The vmPFC–hippocampus interaction thereby supplies a memory-based substrate for recency and for value-weighted retrieval: value-laden episodic memories are more likely to be consolidated and later reactivated, increasing the accessibility of recent, affectively charged outcomes when traders form expectations or set reference points [9].

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Accounts that frame anchoring as activation complement these neurobiological mechanisms and point to practical debiasing strategies. Experimental evidence shows that encouraging subjects to generate or attend to attributes that differ from an anchor mitigates anchoring by expanding the set of activated features and breaking the anchor-driven similarity focus; by contrast, mere warnings about anchor unreliability are insufficient [6]. This cognitive route to debiasing aligns with tDCS results indicating that enhancing right DLPFC function reduces anchoring, which together imply that both top-down control over retrieval (neural or cognitive) and bottom-up changes in feature activation can meaningfully alter anchor influence [6,7].

Naturalistic and simulated trading environments illustrate how these mechanisms play out in practice. A qualitative trading simulation found that anchoring manifested variably across participants—sometimes as persistent reference points but overall, less prevalent than loss aversion and availability-driven focus on easily accessible information such as charts and well-known names—while market context and emotional reactions shaped the evolution of biases over time [10]. Under time pressure and unfavorable market conditions, traders relied more on immediately available signals and on emotionally salient outcome memories, conditions that neurocognitive model predicts will amplify anchor dependence unless controlled retrieval or explicit consideration of disconfirming features is invoked [6,9,10].

In sum, the supplied cognitive and neuroscientific evidence converges on a mechanism in which anchors operate through selective activation of memory and feature representations, with medial prefrontal regions providing self-based starting points and dorsolateral prefrontal systems governing retrieval and adjustment; value-related hippocampal–vmPFC circuitry biases which episodic events are readily recalled, thereby reinforcing recency effects in trading. Experimental modulation of right DLPFC excitability and targeted cognitive prompts that broaden activated feature sets both reduce anchoring, indicating complementary neural and cognitive levers for attenuating anchor-driven distortions in valuation [6–10].

Behavioral and Market Effects

Anchoring and recency biases produce measurable effects on market participants' forecasts and on aggregate asset prices. At the micro level, analysts' earnings forecasts reflect an anchoring tendency to reference industry medians: when a firm's forecast earnings per share (FEPS) is lower than the industry median, analysts tend to produce more optimistic forecasts, whereas firms with FEPS above the industry median elicit more pessimistic forecasts, consistent with systematic adjustment toward the industry anchor [11]. These forecasting patterns have real market consequences: firms with FEPS above the industry median subsequently exhibit abnormally high returns, while firms with FEPS below the median show abnormally low returns, particularly around earnings-announcement dates [11]. The study further links anchor-related expectations to corporate actions and forecast dynamics: a high FEPS relative to the industry median increases the likelihood of a stock split, and split firms tend to experience larger positive forecast revisions, greater forecast errors, and larger earnings surprises after the split than non-split firms—effects that are especially pronounced for firms whose FEPS was low relative to the industry median [11].

At a more aggregate and theoretical level, models that build recency bias into learning about fundamentals show how individual updating rules can amplify price fluctuations. A consumption-based asset-pricing framework that endogenizes investors' recency-biased revisions of dividend expectations generates non-fundamental boom-and-bust dynamics and substantial volatility in the price–dividend ratio; even modest degrees of recency bias produce large and persistent departures of prices from fundamentals and generate extrapolative patterns in expected returns that align with survey evidence [12]. Importantly, the model implies that information-order effects and subjective expectations are central drivers of these fluctuations and that public communication policies—targeted disclosure or warnings by authorities—could, in principle, mitigate expectation-driven volatility [12].

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Empirical regularities in return patterns further illustrate how behavioral biases produce time-dependent anomalies. De Bondt and Thaler's evidence is consistent with an overreaction hypothesis at long horizons: portfolios of past "losers" earn substantial positive abnormal returns relative to past "winners," with loser portfolios delivering large January returns that persist for years in their sample [13]. By contrast, Jegadeesh and Titman document robust short- to medium-term momentum: strategies that buy recent winners and sell recent losers generate significant positive returns over 3- to 12-month horizons, with much of the abnormal performance concentrated in the first year and dissipating thereafter [14]. These two findings—long-horizon reversals and intermediate-horizon momentum—are not mutually exclusive within a behavioral framework but instead reveal temporal structure in how biases operate: immediate under- or delayed reactions to firm-specific information can produce momentum over months, while eventual corrections or overreactions may produce reversals over longer horizons [13,14].

Reviews of the supplied evidence highlights two mechanisms by which anchoring and recency shape market outcomes. First, anchoring in information processing (for example, analysts' reliance on industry medians) generates systematic forecast errors and concentrated return patterns around information events, and corporate responses (such as stock splits) interact with these anchored expectations to amplify revisions and surprises [11]. Second, recency-biased learning at the population level alters how new signals are weighted, creating feedback loops that inflate booms and deepen busts unless countervailing information or policy communication intervenes [12]. The empirical regularities of momentum and reversal can be interpreted as different manifestations of these mechanisms across horizons: short-run persistence may reflect delayed incorporation of firm-specific signals or positive-feedback trading, while longer-run reversals may reflect overreaction or the eventual correction of previously biased expectations [13,14].

Finally, the magnitude and persistence of market effects depend on contextual factors identified in the sources: anchor effects are stronger when reference benchmarks (e.g., the industry median) are stable and when market participants are less sophisticated, and recency-driven price swings are amplified when subjective priors are weak or when public information fails to counteract expectation biases [11,12]. These patterns imply that both the design of information benchmarks and the transparency of fundamental signals shape how anchoring and recency translate into measurable inefficiencies in returns and volatility [11,12].

Debiasing Interventions and Practical Tools

Reducing anchoring and recency biases in trading benefits from coordinated measures directed at the decision environment, adviser behavior, individual cognitive procedures, and formal education. Thaler and Sunstein frame a practical starting point: libertarian paternalism preserves freedom while deliberately designing choice environments—through ordering of options, informative defaults, and salience manipulations—so that difficult or rare, high-stakes choices are more likely to yield better outcomes. This choice-architecture approach offers low-cost, noncoercive levers to change behavior without eliminating alternatives [15].

At the practitioner level, concrete adviser tactics counteract the principal manifestations of recency bias in clients. Pompian recommends presenting larger and more representative historical samples to discourage narrow extrapolation from recent returns, and emphasizing value indicators rather than recent price performance to avoid "chasing hot money." He also endorses clear visual aids—exemplified by a "periodic table of investment returns"—to show cross-period variability and thereby make diversification and long-run patterns more salient to clients. Such communicative and visual techniques are practical tools that advisers can use when clients overweight recent outcomes or fixate on short-term performance [16].

Cognitive procedural methods address the decision process directly and are suited to both individual traders and institutional processes. Kahneman articulates several procedural debiasing strategies informed by decades of heuristics research: deliberately slowing down intuitive judgments to allow analytic scrutiny; actively generating disconfirming scenarios by "considering the opposite";

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and conducting structured premortems or post-mortems to anticipate possible failure modes and to expose hidden assumptions before commitments are made. These procedures function by shifting processing from fast, associative modes to slower, reflective modes, thereby increasing the probability that anchors and salient recent events will be detected and corrected [17].

Formal training and education supply a longer-term capacity to resist anchoring and recency distortions. Baron reviews experimental and quasi-experimental training studies that demonstrate transfer of learning: instruction in statistics and methodological reasoning improved students' ability to offer regression-to-the-mean explanations and to apply methodological checks in new contexts. Such evidence supports integrating statistical and methodological training into professional development for advisers and traders, with the aim of improving probabilistic reasoning and methodological vigilance in real decisions [18].

Reviewing these sources yields a pragmatic, multilayered debiasing architecture for trading practice. First, apply choice architecture and interface design in reporting and trading platforms to de-emphasize arbitrary anchors while preserving autonomy [15]. Second, equip advisers with broader historical datasets, value-focused metrics, and persuasive visual comparators to challenge client recency bias and encourage diversified allocations [16]. Third, institutionalize procedural safeguards—premortems, "consider the opposite" prompts, and explicit slowing of decisions—to force analytic reappraisal before trades are executed [17]. Fourth, invest in targeted statistical and methodological training to produce durable improvements in reasoning that transfer to novel decision problems [18].

Conclusion

The literature reviewed here demonstrates that anchoring and recency biases derive from core heuristics—adjustment from initial values, availability, and representativeness—that simplify judgment but generate systematic errors in probabilistic and numerical inference. Resource-rational models nuance this account by showing that under-adjustment can reflect an adaptive allocation of limited time and cognitive resources rather than a simple failure of reasoning. Neurocognitive evidence identifies complementary mechanisms: right DLPFC activity modulates controlled retrieval and adjustment in valuation tasks, MPFC activity implements self-based starting points for inference, and vmPFC–hippocampal circuitry preferentially consolidates value-laden episodic memories that heighten the accessibility of recent outcomes.

These cognitive and neural mechanisms translate into measurable market effects. Analysts who anchor on industry medians produce systematic forecast errors and concentrated abnormal returns around earnings announcements, and anchored expectations can interact with corporate actions, such as stock splits, to amplify forecast revisions and earnings surprises. At an aggregate level, recency-biased learning by investors increases the size and persistence of non-fundamental price fluctuations and can reproduce boom–bust dynamics in asset prices; models that incorporate recency bias replicate salient features of the run-up to major market episodes and of survey-based expectations. Observed empirical regularities—short- to medium-term momentum and longer-horizon reversal—are consistent with temporally structured behavioral responses in which delayed incorporation, positive-feedback trading, and eventual corrective forces all play roles.

The convergence of cognitive, neural, and market evidence implies that mitigation is feasible but will require layered, complementary interventions. Cognitive techniques that broaden the set of considered features and explicitly prompt disconfirming evidence reduce anchoring by altering activation and retrieval processes. Procedural safeguards—slowing decisions, conducting premortems, and institutionalizing structured post-mortems—shift processing from fast, associative modes to slower analytic scrutiny and help expose anchor-driven errors. Practical advisor-facing tools and platform design choices—choice architecture, presentation of broader historical samples, and value-focused visual aids—can counteract narrow extrapolation and client fixation on recent returns. Experimental neuromodulation provides proof of principle that enhancing control over retrieval and adjustment reduces anchoring, underscoring the role of top-down control in debiasing.

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Important caveats temper these prescriptions. Narrative reviews and training studies emphasize that laboratory efficacy does not guarantee durable field transfer: the long-term effectiveness and generalizability of many debiasing techniques in live trading environments remain inadequately tested, and ecologically valid field experiments and longitudinal assessments are needed. Likewise, public communication policies that aim to dampen expectation-driven volatility show theoretical promise but require careful empirical design and welfare analysis.

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