Week 7:
Implications of Heuristics and Biases for Financial Decision-Making

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Readings and Topics

Required readings:

- Ackert & Deaves, Chapters 8 and 9
- Edmans et al. (2022), “Music Sentiment and Stock Returns Around the World” (tutorial)

Topics covered:

1. Home bias and familiarity-driven portfolio distortions
2. Representativeness, glamour and momentum chasing
3. Anchoring in real estate and equity markets
4. Salience, attention limits and their price consequences

Review Quiz

Interactive quiz on Vevox

Quick review of Week 5 and 6 materials
Overconfidence and emotional foundations
Market efficiency, empirical puzzles, and limits to arbitrage

Please open Vevox and enter the session code

Outline

Home Bias and Familiarity

Representativeness, Glamour and Momentum

Anchoring

Salience and Investor Attention

Home Bias and Familiarity

Investors Everywhere Hold Almost Exclusively Domestic Securities

Home Bias

Domestic investors hold mostly domestic securities, forgoing the well-documented gains from international diversification.

What standard finance says

Hold the world market portfolio—every country, every stock, weighted by market capitalisation. That is what diversification demands.

What investors actually do

- American investors hold 94% domestic equity
- Japanese investors hold 98% domestic equity
- British investors hold 82% domestic equity

→ To hold the world portfolio, a US investor would need only ≈30% in US stocks—not 94%.

Source: French and Poterba (1991).

The Gap between Actual and Optimal Portfolios Is Economically Enormous

	Market value weights (%)	U.S. investors	Japanese investors	U.K. investors
U.S.	47.8	93.8	1.3	5.9
Japan	26.5	3.1	98.1	4.8
U.K.	13.8	1.1	0.2	82.0
France	4.3	0.5	0.1	3.2
Germany	3.8	0.5	0.1	3.5
Canada	3.8	0.1	0.1	0.6

This pattern implies that investors act as if foreign stocks are inferior by 350–500 basis points per year—an enormous implied "home-country premium" for which there is no fundamental justification.

Source: French and Poterba (1991).

Three Candidate Explanations—Only One Survives Scrutiny

Excessive optimism

Investors are optimistic about domestic market prospects. But if this were the explanation, implied expected returns would differ wildly across investor groups—and they don't.

Institutional restrictions

Capital controls, differential trading costs and tax rates. These are real but declining; the bias persists even as costs fall. Likely plays a minor role.

Familiarity bias

Comfort-seeking: what is familiar is perceived as good. This is where the action is—and it extends *within* countries too.

→ The excessive optimism story would imply vast disagreement among investor groups about expected returns—the data show only moderate differences (French and Poterba, 1991).

Familiarity Breeds Investment—Even Within a Single Country

Home bias seems driven by a comfort-level with the familiar (Huberman, 2001):

The Baby Bells natural experiment

In 1984, AT&T was forced into a divestiture, creating seven "Baby Bells" along regional lines (e.g. BellSouth serving the southeastern US).

If familiarity drives investment, customers of a Baby Bell should disproportionately hold shares in *their* Baby Bell—and they did.

The diversification cost

From a diversification standpoint, you should *underweight* local companies—if you work and invest locally, your income sources are highly correlated.

→ Diversification theory says seek weakly correlated income streams—investors do the opposite.

Distance, Language and Culture All Predict Stock Ownership

Grinblatt and Keloharju (2001)

Finnish investor dataset with complete ownership records:

- Distance to firm headquarters reduces holding probability
- Language match matters: Finnish investors prefer firms publishing in Finnish; Swedish investors prefer Swedish
- Cultural proximity (shared region, CEO ethnicity) predicts ownership
- Bilingual companies rank in between

The sophistication gradient

Households show larger familiarity effects than institutions.

If local preference were purely about information, we would expect *institutions* (with more resources) to show stronger effects.

→ The fact that households show stronger effects points to familiarity bias, not information advantage.

Fund Managers and Retail Investors Both Favour—and Profit from—Local Stocks

Professional fund managers

Coval and Moskowitz (1999, 2001):

- Managers overweight firms that are 160–184 km closer than their benchmark
- Local preference strongest for small, highly levered firms producing non-traded goods
- Fund managers earn 2.67%/year more on local investments
- Local stocks *avoided* by managers underperform by 3%/year

Retail investors

Ivković and Weisbenner (2005):

- Local investments outperform remote investments by 3.2%/year
- Effect concentrated in non-S&P 500 stocks (+6.2%/year)
- Approximately zero for S&P 500 stocks—where information is already public
- Those better able to select local stocks concentrate holdings more locally

Local Preference Affects Stock Prices—Not Just Portfolios

Hong et al. (2008)

If local investors overweight local stocks and are the marginal buyers, then stock prices should reflect the preferences of the local investor base.

The test

Exploit geographic variation in investor base across US Census divisions. Compare otherwise identical firms in regions with different local ownership intensity.

The result

Moving a firm from the Middle Atlantic (high local ownership) to the Deep South (low local ownership) raises its price by ≈8%—the firm itself has not changed.

→ The composition of local shareholders drives a wedge between price and fundamentals. This is a direct price impact of familiarity bias.

The Verdict: Partly Rational, Partly Bias

Evidence for information advantage

- Outperformance on local stocks is statistically robust
- Concentrated where information matters (small, opaque stocks)
- Consistent with rational information amplification (Van Nieuwerburgh and Veldkamp, 2009)
- Zero effect for S&P 500 stocks, where information is already public

Evidence for familiarity bias

- Households show stronger effects than institutions (Grinblatt and Keloharju, 2001)
- Language and cultural effects go beyond information
- Price effects persist after controlling for firm fundamentals (Hong et al., 2008)
- Many retail investors hold employer stock—pure familiarity, not information

→ The correct answer is: both. Professionals partly exploit genuine information; households partly chase the familiar.

Representativeness, Glamour and Momentum

Representativeness Makes “Good Companies” Look Like “Good Investments”

It seems obvious: a company with high-quality management, a strong image, and consistent earnings growth must be a good investment. Students of finance know better.

Positive qualities should already be embedded in price—good companies sell at high prices; bad companies sell at low prices. No company attribute should be associated with *investment value*.

The representativeness heuristic

We judge the probability that *A* belongs to category *B* by how much *A looks like B*—not by base rates or statistical reasoning. A stock with rising earnings *looks like* a good investment, so investors extrapolate and overpay for glamour.

Executives Believe Good Companies Are Good Stocks—The Data Disagree

Shefrin and Statman (1995): *Fortune* magazine's annual survey asks senior executives to rate companies (0–10) on management quality, innovativeness, financial soundness, and other attributes.

	Value as long-term investment		Management quality		
	(1)	(2)	(3)	(4)	(5)
Log(Size)		0.15***	0.36***		0.21***
		(7.53)	(9.02)		(4.6)
Log(B/M)		−0.11***		−0.75***	−0.57***
		(2.63)		(9.46)	(6.60)
Management quality	1.03***	0.85***			
	(43.95)	(31.69)			
Obs.	311	257	270	257	257
Adj. R^2	0.86	0.89	0.23	0.26	0.31

The Representativeness Trap: Big Growth Firms Are Inferior Investments

Columns (1)–(2): "Good company = good stock"

Management quality and value as a long-term investment are very highly correlated ($R^2 = 0.86$). Executives believe good companies are good stocks.

But no company attribute *should* be associated with investment value if prices are right.

Columns (3)–(5): Size and B/M drive perceptions

Big companies and those with low book-to-market ratios (growth companies) are viewed as good companies.

Big high-growth firms are *representative* of good investments—but the opposite is true. Value stocks consistently outperform growth stocks (Fama and French, 1992).

→ Is this behind the fact that big high-growth firms are actually inferior investments? Investors overpay for glamour because they confuse "good company" with "good stock."

Retirement Savers Chase Past Winners—Even When Told Not To

Deaves (2005) surveyed workers managing their own retirement accounts:

The setup

Respondents were asked to start their pensions from scratch and allocate between two stocks:

- Stock A: “average return over the last 5 years of 5%”
- Stock B: “average return over the last 5 years of 15%”

Further told: “analysts forecast that both stocks should earn about 10% per year over the next 5 years.”

The results

- 64% were momentum-chasers—allocating more to the past winner
- A large spike at −100%: many chase momentum *to the point of losing all diversification*
- Only 12% were contrarians, and many of those also went too far
- Mean loser vs. winner percentage: −33%

Does Chasing Past Returns Make Sense?

Academic evidence is nuanced:

- There *is* evidence of intermediate-term momentum (3-month to 1-year returns)
- But also evidence of reversals for longer-term returns (3–5 years)
- The best answer to the survey question is to be a slight contrarian—but not to surrender diversification
- Absolutely fine to go 50/50 and maximise diversification

Growth or glamour?

Campbell et al. (2010) ask: are high-P/B stocks "growth" stocks, or do their betas reflect different *cash flow risk*?

Growth stocks have high betas because their cash flows are more sensitive to discount-rate shocks—a *fundamental* reason.

→ The glamour/growth story is more complex than pure overreaction. Some of the return premium reflects genuine risk differences—but sentiment still plays a role at the margin.

Representativeness Creates Momentum

The extrapolation mechanism

If investors use past returns as a signal of future quality:

1. Stock rises → investors buy more
2. Buying pushes price higher
3. Price rise confirms the "story"
4. Further buying...

This is momentum driven by representativeness.

Where this leads us

Past-return momentum (Jegadeesh & Titman, 1993) is well documented.

But a specific form of past-return extrapolation turns out to be especially important:

Anchoring to the 52-week high.

Investors focus not on the whole return history, but on a salient reference point.

Anchoring

Expert Real Estate Agents Are Anchored by Arbitrary List Prices

Northcraft and Neale (1987)

Two randomly selected groups of real estate agents were taken to the same house, given the same information set, and asked to appraise it. Only difference: the stated list price.

List prices and appraisals	Dollar figures
List price LOW	$65,900
Appraisal LOW	$67,811
Midpoint	$71,501
Appraisal HIGH	$75,190
List price HIGH	$83,900

The $18,000 difference in list prices produced a full 10% gap between the two groups' appraisals.

Only 25% of agents mentioned the list price as a factor they considered—yet all were anchored on it.

Your Social Security Number Shapes How Much You Pay for Wine

Ariely et al. (2003)

Experiment with MBA students:

- Write the last two digits of your Social Security Number
- Bid on consumer goods (wine, chocolate, computer equipment)
- Those with *higher* SSN last-two-digits bid 57–107% more

An *arbitrary, uninformative* number shifts willingness to pay by up to a factor of two.

"Coherent arbitrariness"

Once the anchor is set, bids are *internally consistent* (coherent) but *wrong in level* (arbitrary).

The market does not help—even repeated market exposure failed to dislodge the anchor.

→ Demand curves estimated from market data need not reveal true consumer preferences (Ariely et al., 2003).

The 52-Week High Explains Momentum Better Than Past Returns

George and Hwang (2004)

Rank stocks by their nearness to the 52-week high price:

- Long top decile, short bottom decile
- Profit: +1.06%/month versus 0.46%/month for standard past-return momentum
- No reversal at long horizons—this is not overreaction
- The 52-week high variable *subsumes* past-return signals in joint regressions

Why anchoring?

Investors use the 52-week high as a reference point for valuation.

When good news arrives for a stock *near* its 52-week high, investors underreact: they are reluctant to push price above the anchor.

The underreaction corrects slowly $\Rightarrow$ predictable returns.

$\rightarrow$ Short-term momentum and long-term reversals are largely separate phenomena.

Analysts Anchor on Industry Medians—and Create Predictable Mispricing

Cen et al. (2013)

Analysts anchor forecasted EPS on the industry median:

- Firms with actual FEPS *above* industry median are systematically under-forecast
- The market initially prices stocks as if analysts are correct
- When earnings are revealed, positive surprises for above-median firms create predictable returns

Abnormal return for firms with FEPS above median: +0.71%/month.

The announcement effect

At earnings announcements: +0.38%.

That is 18% of the annual effect concentrated on just 5% of trading days.

→ This is exactly what anchoring predicts: the market slowly incorporates information between announcements, then jumps sharply when hard data arrives.

Firms with FEPS above industry median are also more likely to engage in stock splits.

Anchoring: Three Settings, Same Mechanism

Laboratory

SSN anchors raise willingness to pay by 57–107%.

Markets do *not* correct the bias.

(Ariely et al., 2003)

Price momentum

52-week high is a reference point.

Good news near the high is absorbed slowly: +1.06%/mo.

(George and Hwang, 2004)

Analyst forecasts

Industry median anchors EPS forecasts.

Above-median firms are under-forecast: +0.71%/month.

(Cen et al., 2013)

→ Common thread: a salient reference point suppresses updating. When information conflicts with the anchor, it is discounted. The market corrects—but slowly, creating predictable returns.

Salience and Investor Attention

You Cannot Buy What You Do Not Know About

Merton (1987)

Standard asset pricing assumes all investors know all assets. If investors have *incomplete information* about available securities, firms that are known to more investors have a lower cost of capital because more investors can share the risk.

If attention is limited and heterogeneous:

- Stocks that receive more attention trade at a premium
- Events that *draw* attention create temporary price pressure
- Inattention to announcements creates predictable drift

→ This is the foundation for all attention-based anomalies: limited attention is a real friction that affects asset prices.

Friday Earnings Announcements: Less Reaction Now, More Drift Later

Dellavigna and Pollet (2009)

If inattention influences stock prices, we should observe less immediate response and more drift for Friday announcements:

- Friday announcements have a 15% lower immediate response
- Followed by 70% higher delayed response (drift)
- Trading volume is 8% lower around Friday announcements

Why this matters

A portfolio investing in differential Friday drift earns substantial abnormal returns.

This supports explanations of post-earnings announcement drift based on underreaction caused by limited attention.

→ Investors are distracted on Fridays; information is absorbed slowly. When you announce matters as much as what you announce.

Stocks with No Media Coverage Earn Significantly Higher Returns

Fang and Peress (2009)

Classify stocks by newspaper coverage:

- No-media stocks earn +0.39%/month more than high-coverage stocks
- Effect rises to +1.0%/month for small-cap stocks
- Not explained by standard risk factors (CAPM, Fama-French, momentum)
- More pronounced among stocks with high individual ownership and low analyst following

Merton (1987) in action

The media does not create *new* information about no-media stocks—these firms are simply unknown to most investors.

When media covers them, the investor base widens, risk is shared more broadly, and required returns fall.

→ The breadth of information dissemination—not its content—affects expected stock returns.

Google Search Volume Predicts Returns—and Then Reversal

Da et al. (2011)

Google Search Volume Index (SVI) as a direct measure of retail investor attention:

- Correlated with but different from existing proxies (news, volume)
- Captures attention in a more timely fashion
- Likely measures retail, not institutional, attention

The return pattern

An increase in SVI predicts:

- Higher prices in the next 2 weeks
- An eventual price reversal within the year
- For IPOs: 6.08% higher first-day return between high- and low-SVI IPOs

→ Attention creates temporary price pressure that subsequently reverses—consistent with attention-induced buying, not information.

Displaying the Purchase Price Prominently Increases the Disposition Effect by 17%

Frydman and Wang (2020)

Natural experiment using investor-level brokerage data from China:

Pure display manipulation:

- Treatment: purchase price made prominently visible
- Control: purchase price hidden (same information set)

Result: +17% increase in the disposition effect (holding losers, selling winners).

What this proves

The information set is identical. The only difference is what is visually salient.

Making the purchase price prominent activates it as a *reference point*, strengthening the disposition effect.

→ Salience does not just affect what we attend to—it shapes which mental frames we use. Platform design matters.

Robinhood Herding Costs Retail Investors −4.7% over 20 Days

Barber et al. (2022)

Robinhood's popularity lists make top-traded stocks salient:

- Herding events: many users buy the same stock at once
- 20-day buy-and-hold abnormal return: −4.7%
- Effect driven by attention-induced trading: users respond to salient ranking, not fundamentals
- Robinhood *outages* reduce high-attention trading—causal evidence

Fintech amplifies attention bias

Traditional brokerages required deliberate action to trade. Robinhood's design:

- Popularity leaderboards
- Push notifications
- One-tap trading

This amplifies attention-driven trading and *worsens* outcomes for retail investors.

→ Platform design is not neutral—it creates systematic biases with measurable price consequences.

Attention Limits: Four Channels, One Theme

Investor base

Unknown stocks have higher costs of capital.

(Merton, 1987)

Timing

Friday announcements: less reaction now, more drift later.

(Dellavigna and Pollet, 2009)

Media

No-media stocks: +0.39%/month extra return.

(Fang and Peress, 2009)

Search

SVI spike → price pressure → reversal.

(Da et al., 2011)

→ Attention is scarce and unequally distributed. Announcements made when investors are distracted get under-priced initially, then corrected slowly. Stocks outside the attention spotlight carry a persistent return premium.

Conclusions

Every Bias Leaves a Return Signature in Prices

Bias	Mechanism	Return effect
Home bias	Familiarity with domestic markets	350–500 bps implied premium
Local preference	Info advantage + familiarity	+1.8–6.2% p.a. local alpha
Representativeness	Good company $\neq$ good stock	Value beats glamour
Momentum chasing	Extrapolation of past returns	64% chase winners
Anchoring	52-week high, industry medians	+0.71–1.06%/month
Inattention	Friday drift, no-media premium	+0.39–3.6%/month
Salience/platform design	Display and fintech effects	−4.7% BHAR (Robinhood)

$\rightarrow$ These are not curiosities. Each creates *predictable* return patterns because prices do not instantly correct—and limits to arbitrage prevent rational traders from eliminating them.

Why Do These Anomalies Persist? Limits to Arbitrage

The puzzle

If biases create predictable returns, why don't rational arbitrageurs trade them away?

Standard finance assumes mispricing is self-correcting: smart money exploits mistakes until prices are right.

But arbitrage is risky, costly, and limited—so mispricing can persist.

Three frictions

- **Idiosyncratic risk:** arbitrageurs cannot fully hedge, so they bear risk even when they are right about mispricing
- **Short-selling costs and constraints:** correcting overpricing requires shorting, which is expensive and sometimes impossible
- **Horizon mismatch:** professional managers face redemptions if mispricing widens before it corrects—they cannot wait long enough

→ Biased investors create mispricing; limits to arbitrage allow it to survive. Both legs are required for behavioural anomalies to persist.

Heuristics and Biases Are Pricing Forces—Not Just Behavioural Oddities

1. Familiarity distorts portfolios at every level—international, domestic, and local—and the distortions are priced into asset values

2. Representativeness leads investors to confuse good companies with good investments, generating systematic overpricing of glamour stocks

3. Anchoring to reference points suppresses information updating, creating predictable return patterns around earnings announcements and price levels

4. Attention is scarce and unequally distributed: when, where, and how information is presented shapes trading behaviour and, ultimately, prices

→ The question is not whether investors are rational or irrational—it is understanding which biases leave systematic traces in prices, and why arbitrage does not eliminate them.

Closing Quiz

Interactive quiz on Vevox

Test your understanding of:
Home bias, representativeness, anchoring, and attention-based anomalies

Please open Vevox and enter the session code

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