

Et Tu, Agent?

Commission-Based Steering in Residential Real Estate

Jordan M. Barry, Will Fried** & John William Hatfield****

ABSTRACT: Real estate agents are required to serve their clients' best interests. However, policymakers have long suspected that buyer agents steer their clients away from properties that offer low buyer agent commissions. They consider steering a key reason why agent commissions have remained high in the internet era, even as commissions in other industries have plummeted. Analyzing a new dataset, we provide the first systematic, nationwide evidence that buyer agents do in fact steer clients away from properties that offer low buyer agent commissions.

Buyer agents play an important role in helping their clients find homes. We hypothesize that buyer agents may skip over low-commission homes in favor of high-commission homes when choosing which listings to forward to their clients. If so, low-commission listings would tend to garner fewer page views on public real estate portals like Zillow and Redfin. To test this theory, we track the number of page views that individual listings receive on Redfin. All else being equal, we find that low-commission listings receive fewer page views. This effect is most pronounced for listings with the lowest commissions, but even listings with commissions that are slightly below the going rate receive significantly fewer page views.

* John B. Milliken Professor of Law and Taxation, University of Southern California Gould School of Law. Professor Barry holds a J.D. from Stanford Law School, with distinction.

** Senior Data Scientist at True Footage, an appraisal technology startup. Fried previously worked at REX Real Estate as a data scientist. Prior to that, he was a data science intern at REX from June 2019 until starting full-time in February 2021. Will holds an M.S. in Data Science from Harvard University and a B.S. in Mechanical Engineering, Phi Beta Kappa, summa cum laude, from Harvard College.

*** Century Club Professor of Finance, McCombs School of Business, University of Texas at Austin. Professor Hatfield received his Ph.D. in Economics from Stanford University in 2005. The Authors thank Emily Keifer, Scott Altman, Jonathan Choi, Thomas D. Lyon, D. Daniel Sokol, Andrew Verstein, Evelyn Moradian, and participants at the USC Gould School of Law Faculty Workshop Series, the 2024 Digitization in Mexico Conference, the National Business Law Scholars Conference, the Association of Law, Property, and Society Annual Meeting, the American Law and Economics Association Conference, the Winter Deals Conference, and the UCLA-USC Business Law Summer Workshop for their helpful comments.

We also find evidence that this steering has meaningful economic consequences. Homes with lower buyer agent commissions take longer to sell and are less likely to sell at all. Again, these effects are largest for the listings with the lowest commissions, which take 33 % longer to sell nationwide. In a typical geographic market, our best estimate is that these lowest-commission properties face a 75 % greater risk of not selling at all. Here too, even commissions that are slightly below the going rate are associated with longer sale times and a higher risk of a failed sale.

We explore the implications of our findings with respect to both the \$52 trillion U.S. housing market and the ongoing scholarly debates regarding agency costs and Collaborative Industries.

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INTRODUCTION

For millions of Americans, buying or selling a home is a major life milestone. For many, it marks the realization of the American dream or a significant life change—a growing family, a new job in a new city, or a downsizing in retirement. On a more concrete level, it has a huge financial impact: For most homeowners, their home is by far their largest asset.¹

1. See, e.g., Neil Bhutta et al., *Changes in U.S. Family Finances from 2016 to 2019: Evidence from the Survey of Consumer Finances*, FED. RESRV. BULL. 15–16, 19 (Sept. 2020), <https://www.federalreserve.gov/publications/files/scf20.pdf> [<https://perma.cc/M2VC-7JTX>] (reporting that the median value of families' financial assets was \$25,700, compared to \$225,000 for their primary residence assets); PAUL TAYLOR, RAKESH KOCHHAR, RICHARD FRY, GABRIEL VELASCO & SETH MOTEL, PEW RSCH. CTR., WEALTH GAPS RISE TO RECORD HIGHS BETWEEN WHITES, BLACKS AND HISPANICS 18–20 (2011), https://www.pewresearch.org/wp-content/uploads/sites/3/2011/07/SDT-Wealth-Report_7-26-11_FINAL.pdf [<https://perma.cc/NF6G-MHGT>] (finding that, even in 2009, post-housing crash, median home equity was many times larger than median stock and mutual fund ownership); see also American Advisors Group, *Over 70% of Seniors Say Their Home Is Their Most Valuable Asset According to AAG Survey*, PR NEWswire (Oct. 19, 2021, 9:07 AM), <https://www.prnewswire.com/news-releases/over-70-of-seniors-say-their-home-is-their-most-valuable-asset-accordin>

The vast majority of homes sold in the United States are listed on a centralized database known as a Multiple Listing Service (“MLS”).² This lets potential buyers—or, more accurately, their agents—see what homes are available in a particular area. Buyer agents closely monitor the MLS, and when they see new listings that look promising, they forward them to their clients for consideration.³ Prospective buyers can then investigate the properties and potentially make offers.

An odd characteristic of the U.S. real estate market is that buyers generally have not paid their agents directly. Instead, the National Association of Realtors (“NAR”) required sellers who listed their homes on an MLS to offer a preset commission rate to the buyer agent.⁴ Thus, home sellers set the pay for the buyer agents who were negotiating against them. NAR did not require home sellers to offer buyer agents a particular rate (for example, 3%); sellers could offer commissions as low as \$1. In practice, however, this almost never happened; in most U.S. markets, over 99% of sellers offered buyer agents a commission of 2% or higher.⁵ This begs the question: Why do sellers offer thousands of dollars to agents who work for their counterparties?

U.S. residential real estate commissions exhibit several other odd features. Total commissions on a U.S. home sale are typically between 5% and 6%.⁶

g-to-aag-survey-301402888.html [https://perma.cc/7PEJ-JSKC] (“[N]early three of every four seniors (73%) say their home is now their most valuable asset.”).

2. See, e.g., NAT’L ASS’N OF REALTORS, 2022 PROFILE OF HOME BUYERS AND SELLERS 8 (2022), https://www.nar.realtor/sites/default/files/documents/2022-highlights-from-the-profile-of-home-buyers-and-sellers-report-11-03-2022_o.pdf [https://perma.cc/UW78-8G54]; see also NAT’L ASS’N OF REALTORS, 2023 PROFILE OF HOME BUYERS AND SELLERS 5–6 (2023), <https://www.nar.realtor/sites/default/files/documents/2023-profile-of-home-buyers-and-sellers-highlights-11-13-2023.pdf> [https://perma.cc/BL2J-ESZ6] (placing the number at 89%).

3. In the industry, an agent that represents a buyer is typically referred to as either the “buyer’s agent” or the “selling agent.” This terminology can be confusing to those outside the industry, so we use the term “buyer agent” throughout this Article.

4. More precisely, NAR required listing agents who posted listings on NAR-affiliated MLSs to specify how they would split the commission paid by the seller with the buyer agent. See NAT’L ASS’N OF REALTORS, HANDBOOK ON MULTIPLE LISTING POLICY 39 (35th ed. 2023) [hereinafter NAR MLS HANDBOOK], https://www.nar.realtor/sites/default/files/documents/pdf_mls_handbook-2023-08-11.pdf [https://perma.cc/NC68-YVQW] (“In filing property with the multiple listing service, participants make blanket unilateral offers of compensation to the other MLS participants and shall therefore specify on each listing filed with the service the compensation being offered by the listing broker to the other MLS participants.”). Nearly all MLSs that are not affiliated with NAR had the same policy. This rule changed after this Article was first drafted. See *infra* Sections I.D, IV.A.1.

5. See *infra* Figure 3 (showing such rates below 1% for, among other cities, Atlanta, Austin, Buffalo, Chicago, Columbus, Dallas, Denver, Houston, Indianapolis, Kansas City, Nashville, Orlando, Philadelphia, Pittsburgh, Portland, the Research Triangle, Saint Louis, San Antonio, Seattle, and Washington, D.C.). Even sellers who offer a commission below 2% still offer non-trivial commissions; across our entire dataset, less than 0.1% of listings offer a buyer agent commission that is less than 1%. William Fried, *Redfin Views Analysis* [hereinafter Github Repository], https://github.com/williamfried/redfin_views_analysis (on file with the *Iowa Law Review*).

6. Tracey Velt, *Average Real Estate Commission Rate at Highest Level Since 2013*, REALTRENDS VERIFIED (Apr. 26, 2023, 4:15 PM), <https://www.realtrends.com/articles/average-real-estate-co>

Commissions in many other developed economies are significantly lower.⁷ U.S. commission rates vary little with the price of the home.⁸ They remain stable when there are many home sales and when there are few.⁹ They do not drop when a surge of new agents enters the industry.¹⁰ They have held steady even as the internet makes it easier than ever for homebuyers and sellers to find each other.¹¹ They have persisted as the commissions of other intermediaries, such as stockbrokers and travel agents, have plummeted.¹² This is particularly surprising given that the residential real estate brokerage industry is unconcentrated and has low barriers to entry, both of which suggest that pricing should be more competitive. In the words of Professors Hsieh and Moretti, “commission rates present[] an enormous puzzle Why do [they] appear to be so insensitive to economic forces?”¹³

We believe that the answer to these questions is steering: Buyer agents can see the commission rate they stand to earn on each property listed in the MLS.¹⁴ Because the buyer agent’s compensation directly depends on the commission that the seller sets,¹⁵ buyer agents have strong incentives to steer their clients away from low-commission listings and toward high-commission listings. Knowing this, and wanting to attract as many potential buyers as possible, sellers have powerful incentives to offer buyer agents going-rate commissions. This dynamic keeps residential real estate commissions high, at great cost to American families.¹⁶

mmission-rate-at-highest-level-since-2013 [https://perma.cc/E83M-8GRB]; see also Natalya Delcours & Norm G. Miller, *International Residential Real Estate Brokerage Fees and Implications for the US Brokerage Industry*, 5 INT’L REAL EST. REV. 12, 12 (2002) (“It is commonly understood that residential real estate brokerage fees in the US tend to run 6% or 7% within local markets for existing property resales.”); John William Hatfield, Scott Duke Kominers & Richard Lowery, *Collusion in Brokered Markets*, J. FIN., Feb. 2025, at 1, 1; Chang-Tai Hsieh & Enrico Moretti, *Can Free Entry Be Inefficient? Fixed Commissions and Social Waste in the Real Estate Industry*, 111 J. POL. ECON. 1076, 1076 (2003) (“Real estate agents typically charge a 6 percent commission, regardless of the price of the house sold.”).

7. Delcours & Miller, *supra* note 6, at 16–17 tbl.1.

8. Hsieh & Moretti, *supra* note 6, at 1076.

9. *Id.* at 1077.

10. *See id.* at 1087.

11. *See id.*

12. See Anna Bahney, *Why Are Real Estate Commissions 6%? – and Why That May Be Changing*, CNN (Dec. 3, 2023, 5:58 PM), https://www.cnn.com/2023/12/03/business/why-are-real-estate-commissions-6-and-why-thats-about-to-change/index.html [https://perma.cc/SU2P-6VSA].

13. Hsieh & Moretti, *supra* note 6, at 1086.

14. Until recently, the buyer agent commission was only published in the MLS, which meant that agents could see this commission, but buyers could not. See *infra* Section II.B. This changed quite recently; buyer agent commissions are no longer published on the MLS, but they are still generally visible to buyer agents. See *infra* Sections I.D, IV.A.1.

15. It also depends on the price that the buyer pays for the property; the compensation is the product of the purchase price and the commission rate.

16. See, e.g., FED. TRADE COMM’N & U.S. DEP’T OF JUST., COMPETITION IN THE REAL ESTATE BROKERAGE INDUSTRY 66–70 (2007) [hereinafter JOINT REPORT], https://www.ftc.gov/sites/def

Policymakers and regulators have been concerned about steering by residential real estate agents for at least forty-five years but have been constrained by a lack of systematic empirical evidence. In the 1970s, the Federal Trade Commission (“FTC”) conducted an extensive, multiyear investigation into the residential real estate brokerage industry. It launched this investigation, in part because industry sources reported steering, as well as retaliation and harassment against agents who offered services at less than “customary” rates.¹⁷ The investigation culminated in an extensive report, published in 1983 (the “1983 FTC Report”).¹⁸ However, hampered by a lack of sufficiently strong evidence, the FTC ultimately took little action to address steering.¹⁹

In 2005, in response to a request by the Financial Services Committee of the U.S. House of Representatives, the U.S. Government Accountability Office (“GAO”) released its own report on the residential real estate brokerage industry.²⁰ The GAO report raised concerns about steering, but its authors lacked systematic evidence of steering, and the report ultimately made no recommendations to address the issue.²¹ In 2007, the FTC and the Department of Justice (“DOJ”) issued a joint report titled *Competition in the Real Estate Brokerage Industry*.²² That report included a section about steering as a potential obstacle to price competition.²³ Later that year, the DOJ released a paper on price competition among real estate agents and discussed “Why It Matters.”²⁴ The DOJ devoted a large portion of the paper to steering and its effects.²⁵ Yet once again, regulators found themselves limited by the lack of systematic evidence, stating that “[t]o the best of our knowledge, more recent empirical evidence of steering [than the 1983 FTC Report] does not

ault/files/documents/reports/competition-real-estate-brokerage-industry-report-federal-trade-commission-and-u.s.department-justice/v050015.pdf [https://perma.cc/L38T-6EPY]; Matthew Magura, *How Rebate Bans, Discriminatory MLS Listing Policies, and Minimum Service Requirements Can Reduce Price Competition for Real Estate Brokerage Services and Why It Matters* 3–17 (U.S. Dep’t of Just., Antitrust Div., Econ. Analysis Grp., EAG Discussion Paper 07-8, May 2007) [hereinafter 2007 DOJ Paper], <https://www.justice.gov/sites/default/files/atr/legacy/2007/09/28/225695.pdf> [https://perma.cc/66AH-7DA2].

17. See generally FED. TRADE COMM’N STAFF REPS., *THE RESIDENTIAL REAL ESTATE BROKERAGE INDUSTRY* (1983) [hereinafter FTC REPORT], https://www.ftc.gov/system/files/ftc_gov/pdf/The-Residential-Real-Estate-Brokerage-Report-Butters-Report.pdf [https://perma.cc/6SW7-HLN4].

18. *Id.*

19. The only data the FTC had to “suggest the possibility that steering practices may be widely prevalent” were its own internal surveys. *Id.* at 75.

20. See generally U.S. GOV’T ACCOUNTABILITY OFF., *GAO-05-947, REAL ESTATE BROKERAGE: FACTORS THAT MAY AFFECT PRICE COMPETITION* (2005) [hereinafter GAO REPORT], <https://www.gao.gov/assets/gao-05-947.pdf> [https://perma.cc/2FU4-QN2P].

21. *Id.* at 13 n.26 (“We did not investigate specific instances of brokers’ alleged refusal to show homes listed with discounters, nor do we have information to assess how common such a practice might be.”).

22. JOINT REPORT, *supra* note 16.

23. *Id.* at 66–70.

24. 2007 DOJ Paper, *supra* note 16.

25. *Id.* at 4–19.

exist.”²⁶ Regulators’ quest for systematic evidence remains ongoing; in 2021, the DOJ issued NAR a Civil Investigative Demand for Documents and Information, requesting “all documents [NAR has] relating to [agents] steering potential buyers toward or away from homes for sale based on the amount of [buyer agent] compensation offered.”²⁷ NAR challenged the DOJ’s demand in federal court, and the DOJ prevailed before the United States Court of Appeals for the D.C. Circuit in April 2024.²⁸

At the same time, Realtors and industry groups have consistently argued—including in recent court filings—that buyer agents do *not* engage in commission-based steering.²⁹ They raise three main arguments: First, buyer agents are fiduciaries of their clients, with responsibilities to act in their clients’ best interests, not their own.³⁰ Realtors and industry groups assert that agents therefore do not engage in steering because that would violate their obligations as fiduciaries.³¹ Second, they contend that competitive pressures

26. *Id.* at 12; *see also id.* (“Nevertheless, anecdotal evidence abounds.”).

27. Civil Investigative Demand for Documents and Information Issued to National Association of Realtors ¶ 6, at 2, Nat’l Ass’n of Realtors v. United States, 97 F.4th 951 (D.C. Cir. 2024) (No. 1:21-cv-02406) [hereinafter DOJ Investigative Demand].

28. *See* Nat’l Ass’n of Realtors v. United States, 97 F.4th 951 (D.C. Cir. 2024), *cert. denied*, No. 24-427, 2025 WL 76447 (2025).

29. *See, e.g.*, Defendants’ Memorandum in Opposition to Plaintiffs’ Motion for Class Certification and Appointment of Class Counsel at 45–46, *Moehrl v. Nat’l Ass’n of Realtors*, No. 1:19-cv-01610, (N.D. Ill. June 14, 2022) [hereinafter *Moehrl Opposition to Class Certification*]; Suggestions in Support of the Corporate Defendants’ Motion to Dismiss at 14, *Sitzer v. Nat’l Ass’n of Realtors*, 420 F.Supp.3d 903 (W.D. Mo. 2019) (No. 19-cv-00332-SRB) [hereinafter *Sitzer Motion to Dismiss*]; Andrea V. Brambila, *More Than 700 Agent Steering Calls Suggest Price-Fixing, Lawyers Charge*, INMAN (July 8, 2022), <https://www.inman.com/2022/07/08/more-than-700-agent-steering-calls-suggest-price-fixing-lawyers-charge> (on file with the *Iowa Law Review*) (quoting Mantill Williams, Vice President of Public Relations and Communications Strategy for NAR, as saying, “[b]rokers who were only to show homes that offer high commissions wouldn’t be in business very long, as buyers would demand to see other options or go to someone else who will”); Anthony Phillips, *The Case for Realtors: The National Association of Realtors vs Missouri*, REAL DAILY (July 6, 2023), <https://theamericangenius.com/housing/board-associations/the-case-for-realtors-nar-vs-missouri> [<https://perma.cc/67YV-6LC4>]; *see also* HousingWire Daily, *The Real Estate Brokerages Battling To Be No. 1*, HOUSINGWIRE, at 17:42–18:00 (Apr. 5, 2023), <https://www.housingwire.com/podcast/the-real-estate-brokerages-battling-to-be-no-1> [<https://perma.cc/WTE2-BKSY>] (interviewing Tracey Velt, Senior Director of Content and Data at HousingWire, who opined that, in her experience, commission-based steering does not happen).

30. *See, e.g.*, NAT’L ASS’N OF REALTORS, CODE OF ETHICS AND STANDARDS OF PRACTICE OF THE NATIONAL ASSOCIATION OF REALTORS art. 1 (2023) [hereinafter NAR CODE OF ETHICS], https://www.nar.realtor/sites/default/files/documents/2023-coe-standards-of-practice-2022-12-28_0.pdf [<https://perma.cc/29B3-NJV8>]; Seung-Hyun Hong, *Real Estate Agents’ Influence on Housing Search*, 37 J. APPLIED ECONOMETRICS 563, 563 (2022) (“In principle, real estate agents have fiduciary duties to their clients in most North American housing markets.”).

31. *See, e.g.*, *Moehrl Opposition to Class Certification*, *supra* note 29, at 46 n.105; Brambila, *supra* note 29 (quoting Mantill Williams, vice president of public relations and communications strategy for NAR, as saying, “[a]s highlighted in the NAR code of ethics, it is a broker’s ethical duty to provide information about any homes the buyer requests to see in addition to others the broker considers to be a fit for a buyers’ priorities”).

force buyer agents to serve their clients well.³² Buyers have many agents to choose from and would stop working with agents who steered them. Moreover, much of agents' business comes from repeat clients and referrals.³³ Thus, steering is not in agents' interests. Third, they argue that public portals such as Redfin and Zillow enable buyers to find homes themselves, without having to rely on their agents to serve as gatekeepers.³⁴ Accordingly, even if agents wished to steer their clients, they would be unable to do so.³⁵

A factual dispute like this calls for data. Unfortunately, as regulators have noted, systematic data on steering has proven hard to come by. This is in part because researchers generally have not had access to commission rates. The only exception is an article by Professors Barwick, Pathak, and Wong, who were able to access relevant home sale data from the Boston metropolitan area.³⁶ They find that properties that offer lower commissions take significantly longer to sell and are less likely to sell at all.³⁷ However, that article's analysis is limited to a single geographic market (Boston), which may not be representative of the country as a whole.³⁸ Moreover, its last year of data was 2011.³⁹ Redfin, Zillow, and similar sites have become much more popular since then; they attract roughly ten times the number of visitors today as they did back in 2010.⁴⁰

Fortunately, additional data on buyer agent commissions has recently become available. In November 2020, the DOJ and NAR entered into a

32. See, e.g., Moehrl Opposition to Class Certification, *supra* note 29, at 46 (arguing that it is not in buyer agents' self-interest to steer clients because the "industry runs on repeat clients and referrals").

33. *Id.*

34. *Id.* at 35 n.95.

35. See, e.g., *id.* at 45-46 ("[I]ndividual buyer brokers have little . . . ability to steer their buyers away from suitable properties and risk upsetting or alienating their buyer, as the brokers know that their buyers can see available properties on internet aggregators [and through other channels], making efforts to steer ineffectual and dangerous for buyer agents . . ." (footnotes omitted)); Sitzer Motion to Dismiss, *supra* note 29, at 14 ("If most home buyers are finding their own homes as a result of accessing information publicly available over the internet, buyers' real estate agents are unable, as a practical matter, to steer their customers away from the customers' preferred homes, regardless of their ultimate compensation.").

36. Panle Jia Barwick, Parag A. Pathak & Maisy Wong, *Conflicts of Interest and Steering in Residential Brokerage*, 9 AM. ECON. J. 191, 196 (2017). After this Article was drafted, Bright MLS put out a document that looks at the effects of buyer agent commissions using Bright MLS's data. LISA STURTEVANT, BRIGHT MLS, DISPELLING MYTHS ABOUT REAL ESTATE COMMISSIONS AND THE MLS (2024), <https://www.southernmarylandrealtors.org/clientuploads/News/Dispelling-Myths-Bright.pdf> (on file with the *Iowa Law Review*). We discuss this document *infra* note 294.

37. *Id.* at 191-92.

38. *Id.*

39. *Id.*

40. In 2010, Zillow attracted an average of 12.7 million monthly unique users, and Trulia attracted 7.9 million, for a total of 20.6 million. Zillow subsequently acquired Trulia. In 2022, Zillow's real estate websites, including Trulia, attracted an average of 220 million monthly unique users. Zillow Grp., Inc., Annual Report (Form 10-K), at 44 (Feb. 9, 2023); Trulia, Inc., Registration Statement (Form S-1), at 11 (Aug. 17, 2012); Zillow, Inc., Registration Statement (Form S-1), at 4 (Apr. 18, 2011) [hereinafter Zillow S-1].

proposed settlement. The terms of the proposed settlement allowed public portals to display buyer agent commissions for the first time.⁴¹ We combine this newly available commission data with existing Redfin data to analyze 265,000 listings from more than thirty of the largest geographic markets around the country.⁴² We are the first researchers to use website page views to investigate steering. This is a significant innovation: Steering is fundamentally about directing buyer attention, which is difficult to observe directly. Page views measure how much attention particular properties garner and can thus indicate how much steering is taking place.

We find strong statistical evidence that buyer agents nationwide steer their clients away from low-commission listings. We find that low-commission listings receive less attention from buyers, as evidenced by fewer page views on Redfin than other listings.⁴³ These effects increase as the buyer agent's commission drops farther below the going rate in a given market.⁴⁴ These differences remain even after controlling for a comprehensive set of potentially confounding variables, such as each property's asking price, geographic location, size, age, and listing agent attributes.⁴⁵

We also find that offering lower commission rates is associated with significant negative economic consequences for sellers. As with our page view analysis, the size of these effects increases as buyer agent commissions drop farther below the going rate. Compared to homes that offer going-rate commissions, homes that offer commissions below 2% take 33% more time to sell.⁴⁶ And that assumes that these homes sell at all—in a typical geographic market, our best estimate is that such properties are 75% more likely to remain unsold.⁴⁷ All the data and code underlying our analysis is freely accessible online.⁴⁸

We consider other bodies of evidence regarding buyer agent steering and find that they bolster our statistical findings. First, surveys of home buyers indicate that buyer agents play an important role in helping their clients find homes, giving them the capacity to steer their clients.⁴⁹ Second, real estate agent training materials, consumer watchdog investigations, and recorded phone

41. See *infra* Sections I.D–II.A.

42. More precisely, 264,139.

43. See *infra* Figure 10 and accompanying text.

44. See *infra* Figure 10 and accompanying text.

45. See *infra* Section III.B.

46. See *infra* Figure 17(c) (showing national data for commission c_4 as well as individual market data).

47. See *infra* Figure 19(c).

48. See GitHub Repository, *supra* note 5; see also Jordan M. Barry, Will Fried & John William Hatfield, *Online Appendix to Et Tu, Agent? Commission-Based Steering in Residential Real Estate* (2025) [hereinafter Appendix], https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4714313 (on file with the *Iowa Law Review*).

49. See *infra* Section III.B.1.

calls of agents refusing to show their clients low-commission properties all indicate that steering by buyer agents is indeed a widespread phenomenon.⁵⁰

Our findings are important for several reasons. First, they are directly relevant to the U.S. housing market, which is extremely important economically. It is enormous: The total value of U.S. housing stock is in the tens of trillions of dollars.⁵¹ Millions of U.S. homes are sold each year, generating trillions of dollars for sellers, and tens of billions of dollars for agents.⁵² Moreover, for most Americans, their home is by far their largest asset.⁵³ Housing costs are also the largest item in the typical household's budget, and by a wide margin.⁵⁴ Failed sales can be especially difficult for sellers, forcing them to pay mortgages on both their new and old properties, potentially for an extended period of time.

Our results regarding commission-based steering also offer insight into other kinds of steering practices that real estate agents may be engaged in. Many studies have found that some real estate agents steer clients away from certain homes and toward others based on their clients' race, ethnicity, or other demographic characteristics.⁵⁵ If steering is possible in the context of

50. See *infra* Section III.B.4.

51. See, e.g., Orphe Divounguy, *The Value of Residential Real Estate Broke a New Record \$52 Trillion*, ZILLOW (Sept. 26, 2023), <https://www.zillow.com/research/total-market-value-2023-33031> [<https://perma.cc/PA4P-TLXU>]; Treh Manhertz, *U.S. Housing Market Has Doubled in Value Since the Great Recession, Gaining \$6.9 Trillion in 2021*, ZILLOW (Jan. 27, 2022), <https://www.zillow.com/research/us-housing-market-total-value-2021-30615> [<https://perma.cc/ELB9-VJJ5>] (reporting total housing value of \$43.4 trillion in 2021); see also *Real Estate - United States*, STATISTA (July 2024), <https://www.statista.com/outlook/fmo/real-estate/united-states> (on file with the *Iowa Law Review*) (projecting total residential real estate value of \$136.6 trillion by 2025).

52. See, e.g., Noah Buhayar, *Real Estate Agents Target Record \$100 Billion as Home Sales Boom*, BLOOMBERG (July 9, 2021, 7:00 AM), <https://www.bloomberg.com/news/articles/2021-07-09/real-estate-agents-eye-record-100-billion-as-home-sales-boom> (on file with the *Iowa Law Review*); *Residential Real Estate Market Size and Trends*, LEANPROP (2021), <https://www.leanprop.com/posts/residential-real-estate-market-size-and-trends> [<https://perma.cc/HC5Z-PG59>] (reporting 6 million houses sold for a total of \$1.6 trillion and \$70 billion in commissions); *Real Estate Sales & Brokerage in the US - Market Size 2005-2030*, IBISWORLD (Aug. 30, 2024), <https://www.ibisworld.com/industry-statistics/market-size/real-estate-sales-brokerage-united-states> (on file with *Iowa Law Review*) (reporting \$223.8 billion in revenue for the real estate sales and brokerage industry in 2023); *Real Estate - United States*, *supra* note 51 (projecting \$1.45 trillion in total U.S. housing sales in 2024).

53. See sources cited *supra* note 1.

54. See, e.g., U.S. BUREAU LAB. STATS., CONSUMER EXPENDITURES IN 2021 (Jan. 2023), <https://www.bls.gov/opub/reports/consumer-expenditures/2021/home.htm> [<https://perma.cc/3MCR-FSYX>] (reporting housing at 33.8% of average household expenditures in 2021, comprising \$22,624 out of total average expenditures of \$66,928; transportation, the second largest category, was less than half the size).

55. See, e.g., Max Besbris & Jacob William Faber, *Investigating the Relationship Between Real Estate Agents, Segregation, and House Prices: Steering and Upselling in New York State*, 32 SOCIO. F. 850, 870-71 (2017); Peter Christensen & Christopher Timmins, *Sorting or Steering: The Effects of Housing Discrimination on Neighborhood Choice*, 130 J. POL. ECON. 2110, 2156-57 (2022); George Galster & Erin Godfrey, *By Words and Deeds: Racial Steering by Real Estate Agents in the U.S. in 2000*, 71 J. AM. PLAN. ASS'N 251, 260 (2005); Maura McDermott, *Why Agents Steer*, NEWSDAY (Nov. 17, 2019), <http://www.nydaily.com/news/real-estate/why-agents-steer>.

low commissions, it is possible in other contexts as well; therefore, our findings bolster concerns about race-based and other types of steering.

Beyond its sheer size, the housing market has important implications for the labor market. The easier and cheaper it is for someone to move, the easier it is to pursue attractive job opportunities outside of their current locale. A considerable body of scholarship argues that homeownership-generated labor frictions create sizable drags on the economy.⁵⁶ Our findings suggest that steering plays a key role in keeping real estate commissions high. Bringing down real estate agent commissions may help reduce moving-related frictions and thus ameliorate some of the larger economic concerns that they raise.

Our results also offer insight into two important economic concepts that are of great practical and legal significance: agency costs and Collaborative Industries. Agency cost is a ubiquitous concept in law and economics, but it is often difficult to estimate in practice because it is hard to isolate and cleanly observe its effects.⁵⁷ For instance, there are many industries in which buyers rely on the expertise of others with greater information, but differing incentives. Prominent examples include finance, technology, and medicine.⁵⁸ Regulation

ps://projects.newsday.com/long-island/real-estate-agents-steering [https://perma.cc/3TZ9-G5XS]; Sun Jung Oh & John Yinger, *What Have We Learned from Paired Testing in Housing Markets?*, 17 CITYSCAPE 15, 40 (2015); MARGERY AUSTIN TURNER ET AL., U.S. DEP'T OF HOUS. & URB. DEV., HOUSING DISCRIMINATION AGAINST RACIAL AND ETHNIC MINORITIES 2012, at 56 (2013), https://www.huduser.gov/portal/Publications/pdf/HUD-514_HDS2012.pdf [https://perma.cc/L6CB-WQX8]; Emily Krone, *The New Housing Discrimination: Realtor Minority Steering*, CHI. POL'Y REV. (Oct. 19, 2018), https://chicagopolityreview.org/2018/10/19/the-new-housing-discrimination-realtor-minority-steering [https://perma.cc/V8JT-TVM3].

56. See, e.g., KATE BARKER, REVIEW OF HOUSING SUPPLY 3 (2004), https://www.thinkhouse.org.uk/site/assets/files/1878/barker.pdf [https://perma.cc/MWM9-KJPH]; HOMEOWNERSHIP AND THE LABOUR MARKET IN EUROPE (Casper van Ewijk & Michiel van Leuvensteijn eds., 2009); Thomas de Graaff & Michiel van Leuvensteijn, *A European Cross-Country Comparison of the Impact of Homeownership and Transaction Costs on Job Tenure*, 47 REG'L STUD. 1443, 1458 (2013); Richard K. Green & Patric H. Hendershott, *Home-Ownership and Unemployment in the US*, 38 URB. STUD. 1509, 1517 (2001); Allen Head & Huw Lloyd-Ellis, *Housing Liquidity, Mobility, and the Labour Market*, 79 REV. ECON. STUD. 1559, 1586 (2012); Andrew Henley, *Residential Mobility, Housing Equity and the Labour Market*, 108 ECON. J. 414, 425-26 (1998); Tyler Ransom, *Labor Market Frictions and Moving Costs of the Employed and Unemployed*, 57 J. HUM. RES. S137, S163 (2022).

57. When it is easy for researchers to observe and measure agency costs, it may also be easy for principals to observe and measure them and take action to reduce them.

58. See, e.g., Daniel Bergstresser, John M.R. Chalmers & Peter Tufano, *Assessing the Costs and Benefits of Brokers in the Mutual Fund Industry*, 22 REV. FIN. STUD. 4129, 4131 (2009) (mutual funds); John Chalmers & Jonathan Reuter, *Is Conflicted Investment Advice Better than No Advice?*, 138 J. FIN. ECON. 366, 386 (2020) (investment advice); SEWIN CHAN, ANDREW HAUGHWOUT & JOSEPH TRACY, FED. RESV. BANK OF N.Y., HOW MORTGAGE FINANCE AFFECTS THE URBAN LANDSCAPE 15-16 (2015) (mortgages); Susan E.K. Christoffersen, Richard Evans & David K. Musto, *What Do Consumers' Fund Flows Maximize? Evidence from Their Brokers' Incentives*, 68 J. FIN. 201, 229 (2013) (mutual funds); J. David Cummins & Neil A. Doherty, *The Economics of Insurance Intermediaries*, 73 J. RISK & INS. 359, 394 (2006) (insurance products); Roman Inderst & Marco Ottaviani, *Competition Through Commissions and Kickbacks*, 102 AM. ECON. REV. 780, 803 (2012) (financial advice); John (Xuefeng) Jiang, Mary Harris Stanford & Yuan Xie, *Does It Matter Who Pays for Bond Ratings? Historical Evidence*, 105 J. FIN. ECON. 607, 620 (2012) (bond ratings); Paul G. Mahoney, *Manager-Investor Conflicts in Mutual Funds*, 18 J. ECON. PERSPS. 161, 180 (2004) (mutual funds); Bradley T.

is a potential response to these problems, but it can be costly. Quantifying how much steering is happening, and its costs, can help policymakers evaluate the merits of regulation and of different types of regulation.⁵⁹ Our data offer an unusually promising opportunity to gain insight into the frequency of steering and its effects on a massive market.

“Collaborative Industries” are industries in which firms must cooperate with their rivals to succeed.⁶⁰ Real estate brokerage is a classic example; agents are paid when they consummate transactions, which requires working with rival agents. Firms in Collaborative Industries are more interdependent than firms in conventional industries, and they can leverage this interdependence to enforce anticompetitive norms. One way in which anticompetitive norms can manifest is via resistance to entrants. This may be especially likely if entrants are mavericks who do not conform to existing industry norms, such as pricing conventions.⁶¹ Such mavericks often drive price competition directly, by offering lower prices, and indirectly, by forcing incumbents to react.⁶² Blocking entrants can thus suppress price competition and reduce market efficiency.

Even more worrisome, blocking entrants can stymie innovation in an industry. Entrants are often the vehicle by which innovative ideas and technologies enter an industry. For example, our data comes from a time period during which instant buyers (more commonly known as “iBuyers”) were new, potentially disruptive entrants into the residential real estate brokerage industry. Compared to other listings, we find that homes listed by iBuyers receive fewer Redfin page views and take longer to sell.⁶³ Other factors besides steering likely contribute to these results.⁶⁴ Nonetheless, our analysis may provide insight into how firms in Collaborative Industries can use their collective power to resist disruptive innovation.

Shapiro, *Informational Shocks, Off-Label Prescribing, and the Effects of Physician Detailing*, 64 *MGMT. SCI.* 5925, 5940 (2018). See generally Barwick et al., *supra* note 36, at 191 (collecting examples); Colleen Honigsberg, Edwin Hu & Robert J. Jackson Jr., *Regulatory Leakage Among Financial Advisors: Evidence from FINRA Regulation of “Bad” Brokers 1* (Nov. 13, 2024) (unpublished manuscript), <https://papers.ssrn.com/sol3/Delivery.cfm/4410143.pdf?abstractid=4410143&mirid=1> [<https://perma.cc/F2Y3-RKVK>] (collecting examples and considering regulatory implications).

59. See, e.g., Definition of the Term “Fiduciary”; Conflict of Interest Rule—Retirement Investment Advice, 81 *Fed. Reg.* 20946, 20951 (Apr. 8, 2016) (estimating that a new rule would produce over \$36 billion of benefits for investors and \$16 billion in compliance costs in the next decade).

60. Jordan M. Barry, John William Hatfield, Scott Duke Kominers & Richard Lowery, *Not from Concentrate: Collusion in Collaborative Industries*, 108 *IOWA L. REV.* 1089, 1091–92 (2023).

61. See, e.g., U.S. DEP’T OF JUST. & FED. TRADE COMM’N, *MERGER GUIDELINES* 9 (2023) [hereinafter *MERGER GUIDELINES*], https://www.ftc.gov/system/files/ftc_gov/pdf/2023_merger_guidelines_final_12.18.2023.pdf [<https://perma.cc/ARH3-8FS6>].

62. See, e.g., *id.* (“The presence of a maverick . . . reduces the risk of coordination . . .”).

63. Analysis of whether iBuyer homes face greater risk of not selling at all is complicated by the fact that iBuyers are more likely to reduce their listings’ asking prices than other sellers are. See *infra* notes 383–88 and accompanying text.

64. See *infra* Section II.F.

Finally, we note that this is a particularly relevant time to be studying steering questions. Recent years have seen more than a dozen class action lawsuits filed against NAR and real estate brokerages alleging that buyer agents have engaged in illegal steering behavior in numerous U.S. markets;⁶⁵ several of those cases cited this Article.⁶⁶ The first class action went to trial in fall of 2023 and resulted in a \$1.8 billion verdict for plaintiffs⁶⁷—a figure that could have been tripled under U.S. antitrust law.⁶⁸ Some of the other contemporaneous cases held the potential for significantly larger damage awards.⁶⁹ The parties have since reached a settlement that provides for payments of more than \$1 billion of damages, as well as a number of changes to the residential real estate brokerage industry.⁷⁰

This Article proceeds as follows. Part I provides background on the U.S. real estate brokerage industry, particularly its commission structure. Part II presents our data and the variables that we constructed from it. Part III details our analysis and findings regarding commission-based steering and its effects. Part IV considers some of the larger implications of our findings and potential policy responses.

65. See, e.g., Class Action Complaint at 3–4, *Moehrl v. Nat'l Ass'n of Realtors*, 492 F. Supp. 3d 768 (N.D. Ill. 2020) (No. 19-cv-01610) [hereinafter *Moehrl Complaint*]; Class Action Complaint at 13–15, *Sitzer v. Nat'l Ass'n of Realtors*, 420 F. Supp. 3d 903 (W.D. Mo. 2019) (No. 19-cv-00332) [hereinafter *Sitzer Complaint*], *sub nom.* *Burnett v. Nat'l Ass'n of Realtors*, No. 19-cv-00332 (W.D. Mo. Apr. 29, 2019); see also Complaint at 5–6, *United States v. Nat'l Ass'n of Realtors*, No. 20-cv-03356 (D.D.C. Nov. 19, 2020) [hereinafter *DOJ Complaint*].

66. See, e.g., Class Action Complaint at 5 n.9, *Grace v. Nat'l Ass'n of Realtors*, No. 23-cv-06352 (N.D. Cal. Dec. 8, 2023) [hereinafter *Grace Complaint*] (San Francisco Bay area); Class Action Complaint at 30 n.24, *Friedman v. Real Est. Bd. of N.Y., Inc.*, No. 24-cv-00405 (S.D.N.Y. Jan. 18, 2024) (Brooklyn).

67. See Dave Gallagher & Austin Alonzo, *Jury Sides with Home Sellers in Commissions Trial*, REAL EST. NEWS (Nov. 17, 2023), <https://www.realestatenews.com/2023/10/31/jury-sides-with-home-sellers-in-commissions-trial> [<https://perma.cc/S2ER-XRBS>]. Plaintiffs also secured almost \$150 million through settlements. Brooklee Han, *Anywhere Real Estate Settles Buyer Broker Commission Lawsuits*, YAHOO! FIN. (Sept. 5, 2023), <https://finance.yahoo.com/news/anywhere-real-estate-settles-buyer-175304121.html> [<https://perma.cc/3WC5-ZT3S>]; Brooklee Han, *RE/MAX Settles Buyer Broker Commission Lawsuits for \$55 Million*, HOUSINGWIRE (Sept. 18, 2023, 12:18 PM), <https://www.housingwire.com/articles/re-max-settles-buyer-broker-commission-lawsuits-for-55-million> [<https://perma.cc/ZY5A-NDST>].

68. See Herbert Hovenkamp, *A Primer on Antitrust Damages* 2–5 (Univ. Iowa Legal Stud. Rsch. Paper 2011), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1685919 [<https://perma.cc/TDA4-FWV2>].

69. The *Sitzer* case that yielded a \$1.8 billion verdict was restricted to sales of homes through Missouri MLSS. Missouri represents a small fraction of total national home sales. Another then-pending case, *Moehrl*, could have triggered more than \$40 billion of damages. See James Rodriguez, *The Multibillion-Dollar Lawsuits That Could Radically Reshape How We Buy and Sell Homes Forever*, BUS. INSIDER (June 26, 2023, 5:03 AM), <https://www.businessinsider.com/real-estate-agents-lawsuits-buy-sell-homes-forever-housing-market-2023-6> (on file with the *Iowa Law Review*).

70. See generally Order, *Burnett v. Nat'l Assoc. of Realtors*, No. 19-cv-00332, 2024 WL 2842222 (W.D. Mo. May 9, 2024) [hereinafter *Class Action Settlement*]; *Welcome to the Residential Real Estate Broker Commissions Antitrust Settlements Website*, <https://www.realestatecommissionlitigation.com> [<https://perma.cc/MLU6-MFGU>] (“[T]he Settlements reached in this matter total[] over \$1 billion.”).

I. BACKGROUND

We begin by providing background on the U.S. residential real estate market. Section I.A provides context regarding the process by which homes are sold, including the roles of some of the key actors and institutions. Section I.B presents history and data regarding agents' commissions, with particular attention to their uniformity within geographic markets. Section I.C explains commission-based steering and how it could potentially contribute to both commission conformity and higher commission levels. Finally, Section I.D describes recent legal developments that relate to both the source of our data and the implications of our analyses.

A. THE U.S. RESIDENTIAL REAL ESTATE MARKET

Each year, approximately six million homes are bought and sold in the United States.⁷¹ This process typically follows a standardized set of steps. Most sellers (86%) start by hiring an agent (a "listing agent") to facilitate the transaction.⁷² These agents help sellers set the asking price, stage the property to make it more appealing to buyers, and arrange for it to be photographed. Once the home is listed, the agent markets the property, coordinates private showings and open houses, and advises the seller during negotiations with potential buyers. After the seller accepts an offer, the agent guides the seller through the escrow process.

Similarly, most buyers (86%) also use an agent (a "buyer agent") to help them purchase a home.⁷³ Buyer agents help clients search for homes that meet their needs, take them on tours of listings, and prepare offers on their behalf. After a buyer's offer is accepted, the buyer agent guides their client through the various stages of the escrow process, such as the home inspection, home appraisal, and mortgage underwriting process.

Typically, both the listing and the buyer agent are only compensated if a transaction closes. Listing agents generally receive a specified portion of the sale price, such as 6%. This fee is discussed and agreed upon between the seller and the listing agent. In contrast, buyers generally have not paid their

71. See, e.g., *Residential Real Estate Market Size and Trends*, *supra* note 52 (reporting approximately 6 million houses sold for a total of \$1.6 trillion and \$70 billion in commissions); *Real Estate Sales & Brokerage in the US - Market Size 2005-2030*, *supra* note 52 (reporting \$223.8 billion in revenue for the real estate sales and brokerage industry in 2023); *Real Estate - United States*, *supra* note 51 (projecting \$1.45 trillion in total U.S. housing sales in 2024).

72. NAT'L ASS'N OF REALTORS RSCH. GRP., 2023 HOME BUYERS AND SELLERS GENERATIONAL TRENDS REPORT 113 (2023) [hereinafter NAR 2023 REPORT], <https://www.nar.realtor/sites/default/files/documents/2023-home-buyers-and-sellers-generational-trends-report-03-28-2023.pdf> [https://perma.cc/E8K3-LHQU]. Agents representing sellers are generally referred to as "listing agents" in the industry.

73. *Id.* at 62 (reporting that 86% of homebuyers use an agent). If one excludes transactions in which the buyer personally knew the seller, or where the buyer purchased a home directly from a home builder or a home builder's agent, the figure is 93%. *Id.*

agents directly, and often did not discuss their agents' compensation at all.⁷⁴ Instead, the listing agent's contract with the seller specified what the buyer agent's compensation would be.⁷⁵ For example, the listing agent's contract with the seller might specify that the listing agent and the buyer agent will each receive 3% of the purchase price.⁷⁶ Because the buyer did not pay their agent directly, from the buyer's perspective, hiring an agent appeared to be free.⁷⁷ In fact, many buyers reported that they did not even know how their agents were compensated.⁷⁸

Most agents work for brokerages.⁷⁹ Brokerages provide agents with a wide range of services in exchange for a portion of their commissions. These services may include physical workspaces, training opportunities, assistance with legal and compliance issues, liability protection, marketing materials, and back-office support.

One of agents' most indispensable tools is their local MLS.⁸⁰ The MLS is a listing agent's primary marketing tool; posting a listing on the MLS advertises the property to all buyer agents searching the MLS. It also automatically syndicates the listing to public portals such as Zillow and Redfin, as well as to various brokerages' websites. Meanwhile, buyer agents use the MLS to search for listings to send to their clients. Buyer and listing

74. JOINT REPORT, *supra* note 166, at 7. Pursuant to a recent settlement, buyer agents must now enter into written agreements with their clients specifying what the buyer agent will be paid. See *infra* Sections I.D, IV.A.1.

75. Importantly, if a buyer purchases a home without the assistance of a buyer agent, they are not entitled to the commission that was offered to the buyer agent. See, e.g., Megan Leonhardt, *Your Realtor's Commission Is Not Really Negotiable, According to New Report*, CNBC (Oct. 30, 2019, 2:46 PM), <https://www.cnbc.com/2019/10/30/realtor-commissions-are-not-negotiable.html> [<https://perma.cc/Y9RV-KKQ3>]. Instead, that commission goes to the listing agent, to the seller, or a combination of the two, depending on the contract that the seller signs with their agent.

76. Technically, the listing agent generally pays the buyer agent. So, in this example, the contract between the seller and the listing agent would typically specify that the seller would pay 6% of the purchase price to the listing agent at closing, and that the listing agent would then pay 3% of the purchase price to the buyer agent.

77. This may be one reason why so many buyers hire agents. Of course, if sellers ultimately keep less of the sales price, they may demand higher prices to sell. See generally James R. Frew & G. Donald Jud, *Who Pays the Real Estate Broker's Commission?*, 10 RSCH. L. & ECON. 177 (1987) (examining factors that drive demand for broker services).

78. See Alina Ptaszynski, *Shedding Light on Buyer's Agent Commissions*, REDFIN NEWS (Oct. 5, 2020), <https://www.redfin.com/news/buyers-agent-commissions-display> [<https://perma.cc/FM R5-W3MB>] ("More than half of recent homebuyers don't fully understand how their agent was paid, according to a recent survey commissioned by Redfin."); see also NAR 2023 REPORT, *supra* note 72, at 65.

79. NAT'L ASS'N OF REALTORS, 2023 MEMBER PROFILE 51-53 (2023), <https://cdn.nar.realtor/sites/default/files/documents/2023-nar-member-profile-report-07-1-2023.pdf> [<https://perma.cc/4KJR-5DV5>].

80. See, e.g., Order at 3, *Burnett v. Nat'l Ass'n of Realtors*, No. 19-cv-00332 (W.D. Mo. Dec. 16, 2022) [hereinafter *Burnett Summary Judgment Ruling*] ("MLS membership is considered essential to brokers.").

agents also use the MLS for other purposes, such as analyzing the market to price homes.⁸¹

The vast majority of MLSs across the country are affiliated with NAR.⁸² NAR-affiliated MLSs are required to comply with NAR's rules.⁸³ Importantly, these rules have long required sellers to offer "blanket unilateral offers of compensation" to buyer agents.⁸⁴ In other words, sellers had to specify up front what they would pay the buyer agent upon the sale of the property. Also, until recently, NAR rules prohibited MLSs from publicly sharing buyer agent commissions.⁸⁵

To post or view listings on an MLS, an agent must generally be a member of that MLS.⁸⁶ Many MLSs limit membership to NAR members. Because the MLS is such a critical tool for conducting business, many agents are effectively forced to join NAR. This has helped NAR become the largest trade organization in the United States, with 1.58 million members (known as "Realtors") as of 2022.⁸⁷

Realtors must abide by NAR's Code of Ethics.⁸⁸ The first sentence of Article 1 of this code states that "REALTORS® pledge themselves to protect and promote the interests of their client. This obligation to the client is primary. . . ."⁸⁹ Realtors or not, agents are also licensed by the states in which they practice and generally have a fiduciary duty to act in the best interests of their clients.⁹⁰

81. Public portals like Zillow and Redfin also show recently sold homes. However, MLSs typically have more advanced functionality and more data. Agents can also use the MLS to gather information about listings that is not available to the public, such as private remarks about the property that are only visible to agents.

82. See, e.g., Corrected Memorandum of Law in Support of Plaintiffs' Motion for Class Certification and Appointment of Class Counsel at 8, *Moehrl v. Nat'l Ass'n of Realtors*, No. 19-cv-01610 (N.D. Ill. June 7, 2022), https://assets.inman.com/wp-content/uploads/2022/06/RedactedMotionForClassCertificationWithoutExhibits_06072022.pdf [<https://perma.cc/BL6L-6WGZ>] ("All but around 3% of MLSs are owned or operated solely by local Realtor associations.").

83. NAR MLS HANDBOOK, *supra* note 4, at 7–8. Not all NAR rules are mandatory; some are recommended, optional, or informational. *Id.* at i.

84. *Id.* at 3, 39. This changed recently. See *infra* Sections I.D, IV.A.1.

85. [Proposed] Final Judgment at 4, *United States v. Nat'l Ass'n of Realtors*, No. 20-cv-03356 (D.D.C. Nov. 19, 2020) [hereinafter Proposed Settlement].

86. See *Non-Member Access to REALTOR® Association Multiple Listing Services*, NAT'L ASS'N REALTORS, <https://www.nar.realtor/legal/non-member-access-to-realtor-association-multiple-listing-services> [<https://perma.cc/95VT-4LTA>].

87. *Historic Report*, NAT'L ASS'N REALTORS, <https://web.archive.org/web/20230422081804/https://www.nar.realtor/membership/historic-report> [<https://perma.cc/PC97-L6F7>].

88. NAR CODE OF ETHICS, *supra* note 30, at 1. Realtors must also pay annual dues to NAR (\$156 in 2025). *REALTORS® Membership Dues Information*, NAT'L ASS'N REALTORS, <https://www.nar.realtor/membership/dues-information> [<https://perma.cc/GGX5-74C2>].

89. NAR CODE OF ETHICS, *supra* note 30, art. 1.

90. See, e.g., 1 FTC REPORT, *supra* note 17, at 101 ("All [fifty] states and the District of Columbia require real estate brokers and salespersons to be licensed."); Victoria Araj, *Who Owes a Fiduciary Duty in Real Estate and What Does That Mean for Your Transaction?*, QUICKEN LOANS (Mar. 9, 2024), <https://www.quickenloans.com/learn/fiduciary-duty> [<https://perma.cc/8VTD-TYCM>].

NAR and its affiliates have heavily influenced the laws and regulations governing real estate agents. In 2022, NAR was the highest-spending lobbying group in the United States.⁹¹ State rules often copy provisions of NAR's Code of Ethics verbatim and sometimes copy the entire document.⁹² Most state regulatory commissions require that a majority of commissioners be licensed real estate agents.⁹³ State laws sometimes empower agents more explicitly. For example, the Governor of Kentucky appoints the Kentucky Real Estate Commission's five commissioners.⁹⁴ Four must be active brokers before and during their appointment, and the governor must choose these from a list of candidates provided by the Kentucky Association of Realtors, a NAR affiliate.⁹⁵ Even a sitting commissioner cannot be reappointed unless the Kentucky Association of Realtors resubmits their name.⁹⁶ Several other states have similar arrangements.⁹⁷

The basic structure of the residential real estate brokerage industry dates back almost a century.⁹⁸ However, two relatively recent innovations merit special attention. First, publicly accessible real estate listing websites such as Zillow, Redfin, and Trulia emerged in the early 2000s.⁹⁹ Public real estate listing sites have become more popular over time; collectively, they now receive hundreds of millions of page views each month.¹⁰⁰ Before these portals, buyers

91. *Top Spenders*, OPENSECRETS, <https://www.opensecrets.org/federal-lobbying/top-spenders?cycle=2022> [<https://perma.cc/65QR-SLFV>].

92. 1 FTC REPORT, *supra* note 17, at 98.

93. *Id.*; *see also id.* at 106 (“Licensees outnumber non-licensees on the . . . boards in every state except Rhode Island . . .”).

94. *See* United States v. Kentucky Real Estate Commission; Proposed Amendment Final Judgment and Competitive Impact Statement, 70 Fed. Reg. 45424, 45425 (Aug. 5, 2005) [hereinafter Kentucky DOJ Action].

95. *Id.*; *see also* *About Us*, KY. REALTORS, https://kyrealtors.com/dmwebhosting-net/?page_id=26 [<https://perma.cc/EE6A-PHA2>].

96. Kentucky DOJ Action, *supra* note 94, at 45425.

97. 1 FTC REPORT, *supra* note 17, at 98.

98. *Id.* at 87 (“By the end of the 1920’s, most of today’s brokerage structures had been developed and were in fairly wide use.”).

99. *See, e.g.*, Zillow S-1, *supra* note 40, at 5 (“Zillow, Inc. was incorporated in Washington in December 2004.”); Redfin Corp., Registration Statement (Form S-1), at 9 (June 30, 2017) (“We were incorporated as Appliance Computing Inc. in Washington in October 2002. We reincorporated in February 2005 in Delaware and changed our name to Redfin Corporation in May 2006.”); Trulia, Inc., *supra* note 40, at 6 (“Trulia, Inc. was incorporated in Delaware in June 2005.”); *see also* INMAN NEWS, THE HOMESTORE SAGA: THE TUMULTUOUS STORY OF AN ONLINE REAL ESTATE COMPANY 66 (2019), https://assets.inman.com/wp-content/uploads/2019/10/2002-12_SIR_homestore.pdf [<https://perma.cc/C4PH-V4NY>] (discussing the rise of the real estate listing website Homestore in the early 2000s).

100. *See, e.g.*, *Redfin.com December 2024 Traffic Stats*, SEMRUSH, <https://www.semrush.com/web-site/redfin.com/overview> [<https://perma.cc/SY86-X3LX>] (reporting that Redfin’s website had 62.35 million views in August 2024, with 95.9% coming from the United States); *see also supra* note 40 and accompanying text (describing real estate websites with millions of views per month).

were largely dependent on their agents to find suitable homes on the MLS.¹⁰¹ Buyers and sellers also had much less information about how much comparable homes were selling for in the market. Now, buyers have significantly greater direct access to information about available homes and prices.¹⁰²

Redfin, upon its launch, also tried to shake up the real estate industry in another way. In addition to operating a website, Redfin launched as a brokerage that offered discounted commissions. Buyer agents generally receive 3% commissions; Redfin promised to return two-thirds of that to its buyer clients.¹⁰³ In a *60 Minutes* interview, its CEO described real estate as “by far . . . the most screwed up industry in America” and predicted that Redfin would transform the real estate industry in the way that Amazon, eBay, and Yahoo had transformed other industries.¹⁰⁴

A number of observers viewed Redfin as a potential disruptor of established industry practices. Many agents worried that Redfin would hurt their bottom lines or even put them out of business. Some discouraged their clients from transacting with Redfin clients;¹⁰⁵ some would not show homes to Redfin buyers;¹⁰⁶ some outright refused to present offers to their sellers that came from Redfin buyers.¹⁰⁷ Redfin attempted to deter such tactics by creating a “Hall of Shame”—a website calling out traditional agents who were hostile

101. Of course, homes were advertised in other ways, such as yard signs and newspapers, but most home buyers reported that their agent found them the home that they ultimately bought. 1 FTC REPORT, *supra* note 17, at 132 n.352 (surveying then-recent homebuyers who purchased a home in a transaction that involved a broker).

102. According to NAR’s 2023 generational trends report, 51% of buyers reported finding the home they purchased on the internet. NAR 2023 REPORT, *supra* note 72, at 52.

103. Timothy B. Lee, *Redfin Set Out to Disrupt Real Estate—It Was Harder than It Looked*, ARS TECHNICA (July 28, 2017, 1:00 PM), <https://arstechnica.com/tech-policy/2017/07/redfin-set-out-to-disrupt-real-estate-it-was-harder-than-it-looked> (on file with the *Iowa Law Review*).

104. Daniel Schorn, *Chipping Away at Realtors’ Six Percent*, CBS NEWS (May 11, 2007, 12:09 PM), <https://www.cbsnews.com/news/chipping-away-at-realtors-six-percent-11-05-2007> [<https://perma.cc/ARV8-PMXD>].

105. See, e.g., James R. Hagerty, *Real-Estate War Traps Consumers in the Middle — Full-Service Brokers’ Tactics to Rebuff Discount Rivals Sometimes Hurt the Customer*, WALL ST. J. (June 17, 2006, 12:01 AM), <https://www.wsj.com/articles/SB115049967110282990> (on file with the *Iowa Law Review*) (describing how, when he learned a couple was using Redfin, an “initially friendly and helpful” seller’s broker “refused to show the condo to the couple again and said he would advise his client not to consider any offer they made,” the couple “gave up”); *The Changing Real Estate Market: Hearing Before the Subcomm. on Hous. & Cmty. Opportunity of the H. Comm. on Fin. Servs.*, 109th Cong. 97–100 (2006) [hereinafter *Kelman Statement*] (statement of Glenn Kelman, President & Chief Executive Officer, Redfin Corp.).

106. See, e.g., Damon Darlin, *The Last Stand of the 6-Percenter?*, N.Y. TIMES (Sept. 3, 2006), <http://www.nytimes.com/2006/09/03/business/yourmoney/03real.html> (on file with the *Iowa Law Review*).

107. *Kelman Statement*, *supra* note 105, at 97–98. According to Redfin’s CEO, “[s]ixty-three percent of [its] customers report meddling from other agents,” including intimidation, “mak[ing] up grade-school legal mumbo-jumbo to scare [Redfin] clients,” and even threats of violence. *Id.* at 97.

to Redfin clients, against their own clients' interests.¹⁰⁸ The Hall of Shame did not have the desired effect, however, as "agents immediately appl[ied] to appear there."¹⁰⁹

Redfin is now approximately twenty years old, and it has become a more accepted feature of the real estate landscape. It maintains a popular website and has achieved considerable business success.¹¹⁰ However, its model looks more like a traditional brokerage now than when it launched, and its market share is less than 1%.¹¹¹ Few observers now predict that it will do to Realtors what other websites did to travel agents.¹¹²

The second innovation is the debut of "instant buyers," more commonly known as iBuyers. iBuyers seek to operate like stockbrokers or car dealers, except as dealers of real estate instead of stocks or cars. iBuyers make immediate cash offers to home sellers, which allows sellers to avoid the uncertainty and delay of the traditional selling process. iBuyers then resell any properties they purchase to conventional buyers, sometimes after making repairs and upgrades. iBuyers earn revenue in two main ways. First, they charge sellers a service fee. Second, they make offers that are typically below market value and then resell their inventory for higher prices.¹¹³

The three largest iBuyers to date are Opendoor, Offerpad, and Zillow. Opendoor, founded in 2014, was the first iBuyer. Offerpad was founded in 2015 and Zillow expanded into iBuying in 2018. When iBuyers debuted, many observers predicted that iBuyers would take significant market share away from traditional agents.¹¹⁴

108. *Id.* at 98; Glenn Kelman, *The Hall of Shame*, REDFIN NEWS (Oct. 5, 2020), https://www.redfin.com/news/the_hall_of_shame [<https://perma.cc/86GC-9B3F>].

109. Kelman Statement, *supra* note 105, at 98.

110. *Redfin.com December 2024 Traffic Stats*, *supra* note 100; *Market Capitalization of Redfin*, COMPANIESMARKETCAP, <https://companiesmarketcap.com/redfin/marketcap> [<https://perma.cc/KK6Y-LLXM>] (reporting an \$800 million market capitalization as of September 2023, down from a high of almost \$10 billion in February 2021).

111. Tony Mariotti, *Redfin Company Stats: Revenue & Competitors (2024)*, RUBYHOME (Mar. 3, 2024, 12:00 PM), <https://www.rubyhome.com/blog/redfin-stats> [<https://perma.cc/KHQ3-CC5K>] (reporting that Redfin captured a 0.80% market share of U.S. real estate transactions in 2022).

112. *See, e.g.*, Timothy B. Lee, *Redfin Set Out to Change Real Estate. Then Real Estate Changed Redfin.*, VOX (Aug. 10, 2015, 8:30 AM), <https://www.vox.com/2015/8/10/9110233/redfin-glenn-kelman-profile> [<https://perma.cc/J3NS-QC4N>]; Lee, *supra* note 103. Indeed, Redfin was just acquired by Rocket Companies for \$1.75 billion. *See* Rocket Companies, Inc., *Rocket Companies to Acquire Redfin, Accelerating Purchase Mortgage Strategy*, PR NEWswire (Mar. 10, 2025, 7:00 AM), <https://www.prnewswire.com/news-releases/rocket-companies-to-acquire-redfin-accelerating-purchase-mortgage-strategy-302396502.html> [<https://perma.cc/YHZ5-DAGZ>].

113. Complaint at 10–11, Opendoor Labs Inc., FTC File No. 192-3191 (Aug. 1, 2022), https://www.ftc.gov/system/files/ftc_gov/pdf/Complaint%20%28redacted%29.pdf [<https://perma.cc/M85V-Y9QH>].

114. *See, e.g.*, B.L. Sheldon, *How Are iBuyers Changing Real Estate?*, REAL ESTATE TREND SHARK, <https://realestatetrendshark.com/how-are-ibuyers-changing-real-estate> [<https://perma.cc/5YA-N-VP4T>] ("iBuyers are not a fad. They aren't going away . . . And they are already growing and obtaining enormous amounts of venture capital funding."); Jim Berry, Dharmesh Ajmera, Scott

However, as of 2023, iBuyers had not made great inroads. In 2022, Opendoor and Offerpad's combined market share was less than 1%,¹¹⁵ while the percentage of sellers that use traditional agents has remained virtually unchanged since iBuyers first appeared in 2014.¹¹⁶ Furthermore, iBuyers have yet to show that their business models are sustainable. Opendoor lost a total of \$2.27 billion between 2020 and 2022,¹¹⁷ while Offerpad lost \$165 million over that same timeframe.¹¹⁸ Zillow shuttered its iBuyer program entirely in 2021 due to massive losses.¹¹⁹

B. FEE SCHEDULES AND FEE UNIFORMITY

In some ways, the U.S. real estate market is a triumph. The vast majority of homes are listed on and sold through local MLSs.¹²⁰ This enables sellers and buyers—through their agents—to come together and find each other, to mutual benefit: Home sellers can reach the broadest pool of buyers, and buyers can see the widest selection of homes.

The foundation of the current system is cooperation among agents. Listing agents generally post their listings on the MLS, rather than hoarding them; buyer agents generally examine the MLS for listings, rather than limiting their search to a few favored counterparties. Building that system took conscious efforts by industry groups.

Unfortunately, there can be a fine line between collaboration and collusion. As part of their efforts to get agents to use MLSs, industry groups also propagated mandatory fee schedules for MLS users.¹²¹ These fee schedules specified the commissions to charge sellers and how they should be divided

Cerutti & Aaron Craft, *uSell, iBuy: InFocus: iBuyer Programs Offer Consumer Convenience and Drive Homebuilder Sales*, DELOITTE (2019), <https://www2.deloitte.com/us/en/pages/financial-services/articles/ibuyer-real-estate.html> [<https://perma.cc/JJH4-UP35>]; Graham Wood, *How to Stay Relevant in a Tech-Infused World*, REALTOR MAG. (Aug. 21, 2019), <https://www.nar.realtor/magazine/real-estate-news/technology/how-to-stay-relevant-in-a-tech-infused-world> [<https://perma.cc/H635-EAHS>] (quoting Brad Inman, founder of real estate publication Inman News, as predicting that iBuyers might soon “command . . . 50% of the national real estate market”).

115. Tony Mariotti, *iBuyer Statistics (2024)*, RUBYHOME (Apr. 2, 2023, 2:45 PM), <https://www.rubyhome.com/blog/ibuyer-stats> [<https://perma.cc/BV9H-PFHD>] (reporting a total of 43,996 existing U.S. homes sold to Opendoor and Offerpad in 2022, out of almost 4.5 million such homes sold that year in total).

116. 88% of sellers used listing agents in 2014, compared to 86% in 2023. See NAR 2023 REPORT, *supra* note 72, at 113; NAT'L ASS'N OF REALTORS RSCH. DIV., HOME BUYERS AND SELLERS GENERATIONAL TRENDS 51 Exhibit 4-1 (2014), <https://www.nar.realtor/sites/default/files/reports/2014/2014-home-buyer-and-seller-generational-trends-report-full.pdf> [<https://perma.cc/R4Z A-GNQK>].

117. Opendoor Techs., Inc., 2022 Annual Report (Form 10-K), at 46 (Feb. 23, 2023).

118. Offerpad Sols. Inc., 2022 Annual Report (Form 10-K), at 49 (Feb. 28, 2023); Offerpad Sols. Inc., 2021 Annual Report (Form 10-K), at 48 (Mar. 7, 2022).

119. See Will Parker, *Zillow Reports \$880M Loss on Failed Home-Flipping Business*, WALL ST. J. (Feb. 10, 2022, 10:20 AM), <https://www.wsj.com/articles/zillows-shuttered-home-flipping-business-lost-881-million-in-2021-11644529656> (on file with the *Iowa Law Review*).

120. See *supra* note 2 and accompanying text.

121. 1 FTC REPORT, *supra* note 17, at 195–97.

between listing agents and buyer agents.¹²² These schedules were intended to, and did, raise commissions nationwide.¹²³

After a successful antitrust suit from the DOJ, industry groups switched to “recommended” or “suggested” schedules.¹²⁴ These schedules proved effective.¹²⁵ Numerous additional antitrust actions by state and federal authorities prompted NAR to change course and prohibit such fee schedules in 1971.¹²⁶

But even without official fee schedules, U.S. real estate markets have long been characterized by tremendous commission uniformity. Writing in 1983, over a decade after NAR banned fee schedules, the FTC reported that “[c]ommission rates today commonly are found to be essentially at the levels they were when they last were fixed.”¹²⁷ The FTC attributed this effect to “very strong cooperative pressures that keep rates uniform within local markets once they are set.”¹²⁸

Indeed, the cooperative pressures that the FTC referred to in its 1983 report seem just as potent forty years later. Figures 1 and 2 show the proportion of listings offering the single most common buyer agent commission rate and the two most common commission rates, respectively, in all of the geographic markets for which we have this data.¹²⁹ Figure 1 shows that, in 28 of 34 markets, a majority of listings offer the most common rate. Figure 2 shows that the two most common rates typically capture over 85% of all listings.

122. *Id.*; *id.* at 133–36.

123. *Id.* at 195–97.

124. *Id.* at 197; *see also* United States v. Nat’l Ass’n of Real Est. Bds., 399 U.S. 485, 491–94 (1950) (describing the collusion between industry groups and how it violated the Sherman Act).

125. 1 FTC REPORT, *supra* note 17, at 197.

126. *Id.*; *see* People v. Cal. Real Est. Ass’n, [1962] Trade Cas. (CCH) ¶ 70,446 (L.A. Cnty. Super. Ct. 1962); United States v. Atlanta Real Est. Bd., [1972] Trade Cas. (CCH) ¶ 73,825 (N.D. Ga. 1971); United States v. Cleveland Real Est. Bd., [1972] Trade Cas. (CCH) ¶ 74,020 (N.D. Ohio 1972); United States v. Long Island Bd. of Realtors, [1972] Trade Cas. (CCH) ¶ 74,068 (E.D.N.Y. 1972); United States v. Memphis Bd. of Realtors, [1972] Trade Cas. (CCH) ¶ 74,056 (W.D. Tenn. 1972); United States v. Greater Pittsburgh Bd. of Realtors, 1973-1 Trade Cas. (CCH) ¶ 74,454 (W.D. Pa. 1973); United States v. L.A. Realty Bd., 1973-1 Trade Cas. (CCH) ¶ 74,366 (C.D. Cal. 1973); United States v. Multiple Listing Serv., 1973-1 Trade Cas. (CCH) ¶ 74,515 (D. Or. 1973); United States v. Real Est. Bd. of Metro. St. Louis, [1973-2] Trade Cas. (CCH) ¶ 74,744 (E.D. Mo. 1973); United States v. Metro MLS, 1974-2 Trade Cas. (CCH) ¶ 75,137 (E.D. Va. 1974); United States v. Real Est. Bd. of N.Y., 1974-2 Trade Cas. (CCH) ¶ 75,350 (S.D.N.Y. 1974); United States v. Real Est. Bd. of Rochester, N.Y., 1975-1 Trade Cas. (CCH) ¶ 60,192 (W.D.N.Y. 1975).

127. 1 FTC REPORT, *supra* note 17, at 136.

128. *Id.*

129. This data was scraped from Redfin between June 2021 and February 2022. It excludes new construction homes, as the focus of our analysis is on existing home sales. *See infra* Part II.

Figure 1: Percentage of Sellers Offering the Most Common Buyer Agent Commission Rate by Geographic Market (Grouped by Most Common Rate)

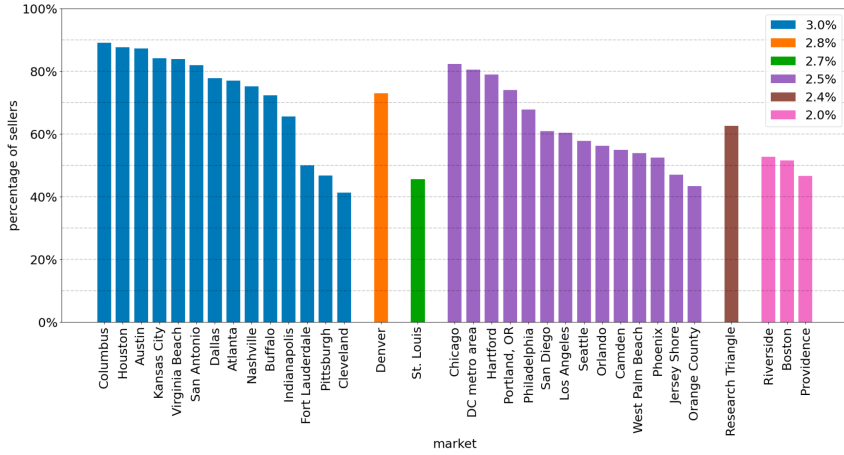
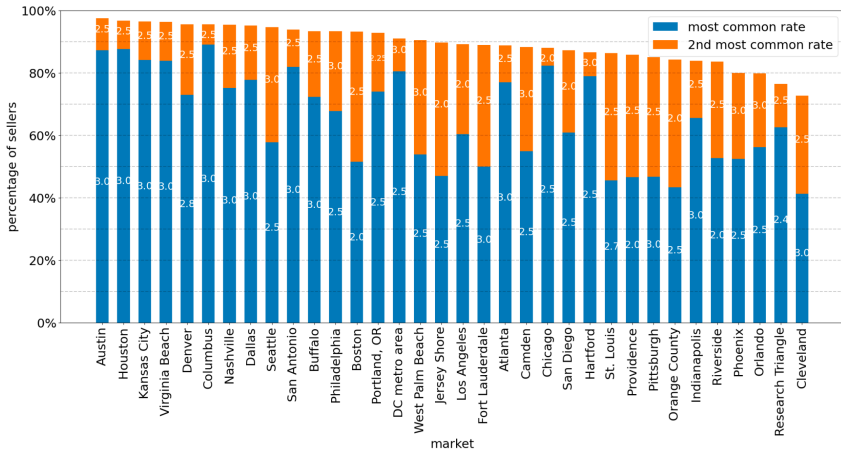


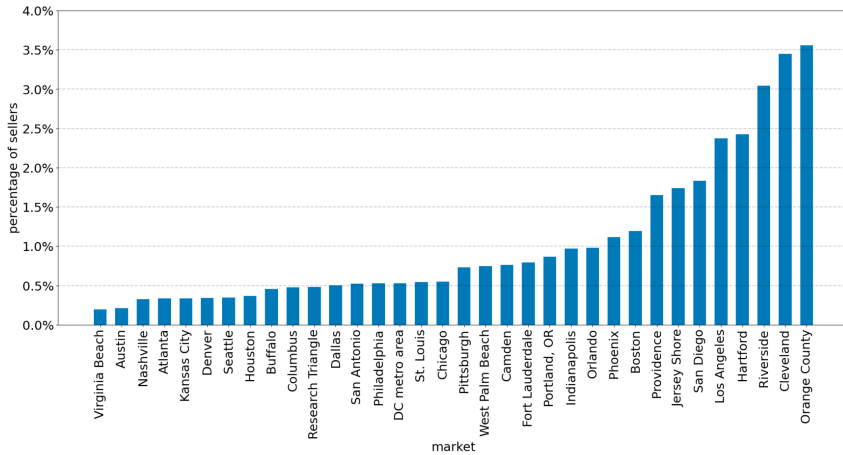
Figure 2: Percentage of Sellers Offering the Two Most Common Buyer Agent Commission Rates by Geographic Market



The blue and orange bars in Figure 2 represent the percentage of sellers that offer the most common and second most common commission rates, respectively. The combined height of the blue and orange bars signifies the percentage of sellers that offer one of the two most common commission rates.

These figures demonstrate that commission rates of 2%, 2.5% and 3% are by far the most common nationwide. None of the commission rates shown in Figure 2 are above 3% or below 2%. Indeed, Figure 3 shows that buyer agent commissions below 2% are rare, accounting for less than 1% of commissions in most markets.

Figure 3: Percentage of Sellers Offering a Buyer Agent Commission Below 2%



While the graphs above focus on buyer agent commissions, total commission rates have also held steady for the last two decades.¹³⁰ Moreover, they remain significantly higher than commission rates in many other developed countries. For example, Professors Delcoure and Miller report that total commissions are typically between 1 to 2% in the United Kingdom.¹³¹ They also report that total commissions average 3% or less in many countries, including Belgium, Ireland, Japan, and the Netherlands.¹³²

One reason for commission stability may be that, while NAR and its affiliates have abandoned official price schedules, many individual real estate brokerages have not. In a 2014 Inman survey, 56% of agents reported that their brokerages require a minimum total commission level to list homes for sellers.¹³³ Similarly, some brokerages specify a minimum commission rate that must be offered to *buyer* agents when the brokerage represents the *seller*. Although most brokerages do not publicize their commission policies, we found multiple policy and procedure manuals online that specify a minimum buyer agent commission on listings.¹³⁴

130. Velt, *supra* note 6. They appear to have declined slightly in the 1990s. *Id.*

131. Delcoure & Miller, *supra* note 6, at 16–17.

132. *Id.*

133. INMAN SELECT, SPECIAL REPORT: WHY THE REAL ESTATE INDUSTRY DOES NOT COMPETE ON COMMISSION RATES 43 (2014), <https://webassets.inman.com/wp-content/uploads/2014/11/InmanRealEstate-SpecialReport-v5.pdf> [<https://perma.cc/ECV2-9EYM>].

134. We found eleven manuals that specified minimum buyer agent commissions and eighteen that did not. We also found four that were unclear. See Will Fried, Brokerages That Require Minimum Buyer's Agent Commission 1–11, https://docs.google.com/presentation/d/1Rhio1p4_LugYCIqLz8cpCyrTtjsBfDR6RNsqsIhVbMo (on file with the *Iowa Law Review*).

Of course, observing that firms maintain minimum commission rates raises new questions: How can firms maintain these minimums in the face of market forces pushing them down? And why would firms establish minimum commissions for counterparty agents?

With regard to the former question, NAR and its affiliates appreciate the value of the cooperation-based MLS system and strive to preserve it. During his time as CEO of NAR, Dale Stinton expressed concerns over “threats to the system,” including “commission-thirsty outsiders.”¹³⁵ NAR has also supported policies that critics believe have insulated incumbents and reduced new entrants’ ability to shift the status quo.

For example, in the early 2000s, tech-savvy brokerages built the first websites that allowed buyers to search for listings themselves.¹³⁶ This meant that buyers would no longer have to rely on their agents to find suitable homes.¹³⁷ This was perceived as a potential threat to traditional brokerages and prevailing commission levels. NAR then amended the rules of its affiliated MLSs to permit brokerages to withhold client listings from these competitors.¹³⁸ The DOJ sued in 2005, alleging that the new rules violated the Sherman Act.¹³⁹ In 2008, NAR settled with the DOJ and repealed its policy.¹⁴⁰

Finally, one might wonder whether buyers negotiate with their agents to receive a portion of the agent’s compensation as a rebate. For instance, a listing might offer the buyer agent a 3% commission, but the buyer agent’s contract with their client might specify that a third of that commission be rebated to the buyer. Thus, the buyer agent would effectively only receive a 2% commission. If so, buyer agent commissions could be less uniform than they appear. However, such rebates appear to be uncommon. Fewer than 6% of

135. Burnett Summary Judgment Ruling, *supra* note 80, at 7.

136. Complaint at 1–2, *United States v. Nat’l Ass’n of Realtors*, 242 F.R.D. 491 (N.D. Ill. 2007) (No. 05C-5140).

137. *Id.* at 1–3.

138. *Id.*

139. *Id.* According to the DOJ’s complaint, this policy:

[R]estricts the manner in which brokers with efficient, Internet-based business models may provide listings to their customers, and imposes additional restrictions on [these] brokers . . . that do not apply to their traditional competitors. [NAR] thus denies brokers using new technologies and business models the same benefits of MLS membership available to their competitor brokers, and it suppresses technological innovation, discourages competition on price and quality, and raises barriers to entry.

Id. at 3–4.

140. Press Release, U.S. Dep’t of Just., Justice Department Announces Settlement with the National Association of Realtors (May 27, 2008), <https://www.justice.gov/archive/opa/pr/2008/May/08-at-467.html> [<https://perma.cc/G8HF-HN66>].

agents surveyed reported that they offer cash rebates.¹⁴¹ A number of states even ban such rebates entirely.¹⁴²

This still leaves the question of why firms would establish minimum commissions for counterparty agents.

C. COMMISSION-BASED STEERING

The scholarly literature provides good reason to think that cooperative pressures among real estate agents are stronger than in many other industries. Real estate agents operate in what is known as a “Collaborative Industry.”¹⁴³ In such industries, a firm must cooperate with its rivals to succeed.¹⁴⁴ Buyers’ and sellers’ agents work together to consummate transactions:

[A real estate] agent’s ability to connect potential buyers and sellers is vital to her business. Thus, being able to work with other agents, and thereby gain access to those agents’ clients, is important. . . .

. . . [A] seller’s broker wants other brokers to tell potential buyers about the property, and vice versa. A real estate agent who is shunned by her peers will suffer financially.¹⁴⁵

This makes agents interdependent, which increases their ability to enforce industry norms, such as prevailing commission rates.

For example, buyer agents could enforce prevailing norms regarding buyer agent commissions by steering their clients away from low-commission properties. According to the 1983 FTC Report, the real estate brokerage industry attributes uniform pricing patterns to steering concerns:

Industry spokespersons [have] explain[ed] this uniformity in terms of the unilateral incentives of [agents]. [Buyer agents] may not show those properties which pay them less than the going rate as aggressively as those that pay the prevailing split. Further, while a larger than normal split to the [buyer agent] might induce even more selling action, listing brokers are reluctant to give [buyer

141. INMAN SELECT, *supra* note 133, at 38.

142. See 2007 DOJ PAPER, *supra* note 16, at 16 (listing such states). Regulators and courts often take a dim view of such rebate bans. See generally *id.*; Kentucky DOJ Action, *supra* note 94 (successfully challenging such a provision); JOINT REPORT, *supra* note 16, at 68 n.329; REX – Real Est. Exch., Inc. v. Brown, 2021-2 Trade Cas. (CCH) ¶ 81,909 (D. Or. 2021) (“Plaintiff presents many compelling arguments that Oregon’s anti-rebate law hurts consumers and artificially increases home prices. . . . Plaintiff makes compelling arguments that excessive fixed broker commissions harm consumers and the housing market itself.”). So do scholars. See, e.g., Lu Han & Seung-Hyun Hong, *Testing Cost Inefficiency Under Free Entry in the Real Estate Brokerage Industry*, 29 J. BUS. & ECON. STAT. 564, 575–77 (2011); Hatfield et al., *supra* note 6, at 5–6.

143. Barry et al., *supra* note 60, at 1091, 1113–19; Hatfield et al., *supra* note 6, at 2, 10, 21; see also JOINT REPORT, *supra* note 16, at 67–68 (discussing “The Importance of Cooperation in Real Estate Brokerage”).

144. Barry et al., *supra* note 60, at 1092.

145. *Id.* at 1112.

agents] more than the going rate because they generally do not need to do so in order to sell the property¹⁴⁶

Steering behavior has significant potential to prop up commission rates against competitive and technological pressures. Recall that, for many years, sellers have set buyer agent commission rates.¹⁴⁷ So long as sellers worry about buyer agent steering impeding their ability to find buyers, they will be motivated to pay buyer agents the going commission rate.

Steering by buyer agents also has the potential to boost listing agent commission rates. Geographic markets have well-established prevailing commission splits between buyer and listing agents; for example, many split commissions 50% each.¹⁴⁸ Holding the prevailing split constant, higher buyer agent commissions directly translate into higher listing agent commissions. Although these splits are no longer enforced by mandated fee schedules, they still appear to be quite sticky. In the words of the FTC:

The largest brokerage firm in Minneapolis, for example, reported that it tried to reduce the split it offered to [buyer agents] from 45 percent to 40 percent of the full commission. The result of the experiment was that the firm's inventory of unsold listings began to grow. The firm subsequently decided to return to the old 55/45 split.¹⁴⁹

Moreover, the DOJ has argued:

[V]irtually all [buyer] agents also act as listing agents for other transactions. As a result, [buyer] agents are not only motivated by the [buyer agent commission]. Ultimately, they are motivated by both [the buyer agent commission] and the commission they can earn in the capacity of listing agent [in the future]. . . .

Consider the case of two identical listings with equal [buyer agent commissions], but one of the listings carries a [higher] total commission rate For these two particular listings, a [buyer] agent is indifferent between which home [her client buys]. However, if she equally markets both listings to her buyers (i.e., does not steer), . . . she will have a difficult time, tomorrow, in her role as a listing agent, trying to justify to a home seller why it is worth paying [the higher total commission]. In short, because [buyer] agents are concerned about their future commissions as listing agents, they may still have a unilateral incentive to steer buyers away from a price-

146. 1 FTC REPORT, *supra* note 17, at 137.

147. A recent settlement required buyer agents to enter into written agreements with their clients; such agreements must specify the agent's compensation. However, it seems that, in practice, buyer agent compensation still depends on the seller's decision regarding how much of a commission to offer the buyer's agent. *See infra* Sections I.D, IV.A.1, IV.A.4.

148. *See, e.g., id.*; Barwick et al., *supra* note 36, at 195; Github Repository, *supra* note 5.

149. 1 FTC REPORT, *supra* note 17, at 137.

cutting listing agent's listing even when [buyer agent commissions] are equal.¹⁵⁰

Many agents share the DOJ's concern. In a 2014 survey, 86% of agents reported that they do not compete for listings based on price.¹⁵¹ Within that group, 25% of agents reported that they do not accept lower listing commissions because, if they do, "other brokers won't promote [my] listings to their buyers."¹⁵² Similarly, 50% of agents agreed "that some brokers do not compete for listings by offering commission discounts because . . . [t]hey fear retaliation by cooperating brokers (refusal to show house to buyers)."¹⁵³

In addition, buyer agent commissions may provide a natural anchor point for listing agents when negotiating their own commissions with their clients. Sellers may compare their own agents' commissions to the commissions that buyer agents are receiving. If so, higher buyer agent commission rates may make sellers more willing to pay higher seller commission rates.¹⁵⁴

Historically, buyers were unlikely to realize that they were being steered. Home buyers did not have direct access to the MLS and so would not easily be able to tell if buyer agents were not showing them low-commission listings. NAR-affiliated MLSs were also prohibited from sharing buyer agent commission information with home buyers and others who were not MLS members.¹⁵⁵ Buyer agents, in contrast, could even filter MLS listings based on the commission rates they offered buyer agents.¹⁵⁶

D. RECENT DEVELOPMENTS

In 2018, the DOJ opened an investigation that culminated in a proposed settlement with NAR in November 2020 (the "Proposed Settlement").¹⁵⁷ Pursuant to that settlement, NAR agreed to repeal four policies that the DOJ deemed anticompetitive.¹⁵⁸ One of those rules prohibited NAR-affiliated MLSs

150. 2007 DOJ Paper, *supra* note 16, at 9–10.

151. INMAN SELECT, *supra* note 133, at 3.

152. *Id.* The fact that this was one of the multiple-choice answers available to this question seems telling in and of itself. Another question asked if commission negotiations had increased because "[b]rokerages no longer stand together in refusing to cooperate with competitors that provide services at reduced commissions," implying it was common knowledge that brokers had previously been a unified front against commission-cutters. *Id.* at 25.

153. *Id.* at 22. The 50% figure includes both agents who reported that they "strongly agree" with this statement and those who "agree somewhat." *Id.* Only 20% of respondents strongly disagreed. *Id.*

154. The opposite may also be true; sellers may be more willing to negotiate their agents' commission rates when they are paying higher total commission rates.

155. Press Release, U.S. Dep't of Just., Justice Department Files Antitrust Case and Simultaneous Settlement Requiring National Association of Realtors® to Repeal and Modify Certain Anticompetitive Rules (Nov. 19, 2020), <https://www.justice.gov/opa/pr/justice-department-files-antitrust-case-and-simultaneous-settlement-requiring-national> [https://perma.cc/2MUF-3LTR].

156. *Id.*

157. *Id.*

158. See Proposed Settlement, *supra* note 85, at 4–8.

from disclosing buyer agent commissions to prospective buyers.¹⁵⁹ Another allowed buyer agents to filter MLS listings based on the level of buyer agent commissions offered.¹⁶⁰

In July 2021, the DOJ backed out of the Proposed Settlement because it “determined that the settlement will not adequately protect [its] rights to investigate other conduct by NAR that could impact competition in the real estate market and may harm home sellers and home buyers.”¹⁶¹ To the best of our knowledge, this was the first time that the DOJ’s Antitrust Division has withdrawn from a proposed settlement that a defendant had not violated.¹⁶² The DOJ’s subsequent Civil Investigative Demand for Documents and Information indicates that the DOJ is concerned about commission-based steering.¹⁶³

In addition, recent years have seen over a dozen federal class action lawsuits against NAR and the largest national real estate broker franchisors.¹⁶⁴ The core allegation of these lawsuits is that the defendants “conspir[ed] to require home sellers to pay [buyer agents’ commissions], and to pay at an inflated amount, in violation of federal antitrust law.”¹⁶⁵ One lawsuit, *Burnett*

159. *Id.*

160. *Id.* To the best of our knowledge, MLSs have not released systematic data on how many searches filtered results based on the commission offered to buyer agents. However, one large MLS stated that, out of 250,000 active searches saved in their system, fewer than 2% included buyer agent commission as a criterion. Andrea V. Brambila, *California Regional MLS Allows Display of Buyer Agent Commissions*, INMAN (Feb. 12, 2021), <https://www.inman.com/2021/02/12/california-regional-mls-allows-display-of-buyer-agent-commissions> (on file with the *Iowa Law Review*). On the one hand, this is a small percentage of total searches. On the other hand, it still constitutes thousands of agent searches explicitly based on commission rates. Moreover, there are many ways agents can engage in steering without using commissions as an explicit search criterion. *See infra* note 275 and accompanying text. The DOJ litigation had also received significant attention in the real estate industry, and attentive users may have already stopped searching by commission. Ultimately, it is hard to draw strong conclusions from this one MLS statement.

161. Press Release, U.S. Dep’t of Just., Justice Department Withdraws from Settlement with the National Association of Realtors (July 1, 2021), <https://www.justice.gov/opa/pr/justice-department-withdraws-settlement-national-association-realtors> [<https://perma.cc/KV93-URE5>].

162. NAR argued that the DOJ is obligated to abide by the terms of the proposed settlement and could not reopen its investigation. NAR prevailed before the district court, but the D.C. Circuit later reversed, holding that the DOJ could reopen its investigation. *Nat’l Ass’n of Realtors v. United States*, 97 F.4th 951, 953 (D.C. Cir. 2024), *cert. denied*, No. 24-417, 2025 WL 76447 (2025).

163. DOJ Investigative Demand, *supra* note 27, ¶ 6, at 2 (“Submit all documents relating to brokers steering potential buyers toward or away from homes for sale based on the amount of cooperative compensation offered by a listing broker.”).

164. *See* Grace Complaint, *supra* note 66, at 2; Moehrl Complaint, *supra* note 65, at 3; Sitzer Complaint, *supra* note 65, at 1; *see also* DOJ Complaint, *supra* note 65, at 1. The broker franchisors include the nation’s four largest: Anywhere (formerly known as Realogy), HomeServices of America, RE/MAX, and Keller Williams. *See, e.g.*, Burnett Summary Judgment Ruling, *supra* note 80, at 2–3.

165. *See, e.g.*, Moehrl Complaint, *supra* note 65, at 3; Sitzer Complaint, *supra* note 65, at 2. Other lawsuits do not use this exact language but have substantially similar allegations. *See, e.g.*, Grace Complaint, *supra* note 66, at 2 (“Defendants have conspired and continue to conspire to restrain trade by causing home sellers to pay buyer broker fees and inflated commissions on the sale of their homes, in violation of Section 1 of the Sherman Act [and other laws].”).

v. NAR, proceeded to verdict in fall 2023. *Burnett* was limited to home sales facilitated by four NAR-affiliated MLSs in Missouri and produced a \$1.8 billion verdict for the plaintiffs.¹⁶⁶ Victorious private plaintiffs in antitrust cases can recover treble damages, so this verdict could potentially have grown to \$5.4 billion.¹⁶⁷ Other then-pending lawsuits covered more transactions and could potentially have triggered even larger liabilities. For example, *Moehrl v. NAR* covered home sales facilitated by twenty NAR-affiliated MLSs across fourteen states and Washington, D.C.; damages could have exceeded \$40 billion.¹⁶⁸

Most of the parties to these private lawsuits have since entered into a settlement agreement (the “Class Action Settlement”), pursuant to which defendants agreed to pay plaintiffs over \$1 billion, with more than \$400 million of that amount coming from NAR.¹⁶⁹ The Class Action Settlement also provides for changes to the residential real estate industry.¹⁷⁰ The district court approved the Class Action Settlement in November 2024, over objections from the DOJ and several others.¹⁷¹ As of this writing in Spring 2025, several appeals challenging the Class Action Settlement remain pending before the United States Court of Appeals for the Eighth Circuit.¹⁷²

II. OUR DATA

Our primary data comes from the Redfin website, which began publishing buyer agent commissions in February 2021.¹⁷³ Redfin did so following the Proposed Settlement between the DOJ and NAR in November 2020.¹⁷⁴

166. Sitzer Complaint, *supra* note 65 (the *Burnett* case was previously called *Sitzer*); Gallagher & Alonzo, *supra* note 67.

167. See Hovenkamp, *supra* note 68, at 21–23 (discussing treble damages in antitrust). 3 * \$1.8 billion = \$5.4 billion. The \$1.8 billion figure reflects rounding, so the actual tripled figure would be slightly different.

168. Moehrl Complaint, *supra* note 65, at 6; Rodriguez, *supra* note 69.

169. Class Action Settlement, *supra* note 70, at 10–12; *Welcome to the Residential Real Estate Broker Commissions Antitrust Settlements Website*, *supra* note 70.

170. Class Action Settlement, *supra* note 70, at 27–31.

171. See Brooklee Han, *NAR’s Commission Lawsuit Settlement Receives Final Approval*, HOUSINGWIRE (Nov. 26, 2024, 4:20 PM), <https://www.housingwire.com/articles/nar-commission-lawsuit-settlement-approved-doj-homeservices-keller-williams-3> (on file with the *Iowa Law Review*).

172. See Brooklee Han, *Appeals of NAR Settlement Approval Continue to Pile Up*, HOUSINGWIRE (Dec. 26, 2024, 11:37 AM), <https://www.housingwire.com/articles/appeals-of-nar-settlement-approval-continue-to-pile-up> (on file with the *Iowa Law Review*).

173. Alina Ptaszynski, *Redfin Publishes Commissions on Over 700,000 Homes for Sale*, REDFIN NEWS (Feb. 8, 2021), <https://www.redfin.com/news/real-estate-commission-transparency> [<https://perma.cc/gTUM-AMX5>].

174. Although the DOJ has attempted to withdraw from the Proposed Settlement, NAR has since unilaterally implemented three of the four policy changes it agreed to in the Proposed Settlement. See Press Release, Nat’l Ass’n of Realtors, *NAR Announces New Guidance that Reinforces Greater Transparency for Consumers* (Nov. 15, 2021), <https://web.archive.org/web/20240418185120/https://www.nar.realtor/newsroom/nar-announces-new-guidance-that-reinforces-greater-transparency-for-consumers> (on file with the *Iowa Law Review*). Importantly for this Article, it ended its prohibition on publicizing buyer agent commission information. *Id.*

Among other reforms, the Proposed Settlement allowed MLSs to include commission information in the data feeds they share with portals like Redfin.¹⁷⁵ Our data was assembled by scraping all active listings on Redfin within a set of specified zip codes on a weekly basis between June 12, 2021, and February 3, 2022.¹⁷⁶ This provided data on hundreds of thousands of listings spanning thirty-four of the largest real estate markets in the country.¹⁷⁷

For each listing, our data includes a wealth of information, including:

(1) *listing information*, such as the asking price, the listing agent, the listing brokerage, and the listing date;

(2) *property information*, such as Redfin's price estimate, the year the property was built, its latitude and longitude, the number of bedrooms, the number of bathrooms, the square footage, and the property type (for example, single-family residence, townhouse, condominium, etc.);

(3) *Redfin site information*, such as the date the listing was scraped, the number of days the listing had been on Redfin ("days on site") and the number of page views it had received as of the date the listing was scraped ("page views");

(4) *the buyer agent commission* offered; and

(5) *sale information* (if applicable), including the date the property went under contract, the date the sale closed, and the sale price.

Before proceeding to our results, we first discuss how users interact with Redfin. We then provide more detail on our dataset as well as the variables we constructed from the raw data.¹⁷⁸ We use our data and constructed variables in our statistical analyses of page views, probability of sale, and time to sale.

175. Soon thereafter, in November 2021, NAR required its affiliated MLSs to disclose buyer agent commissions. More precisely, as members of the MLS, Redfin agents had access to the data before the settlement agreement. However, the data was not included in the data feeds that Redfin received from these MLSs. Thus, the data was not easily accessible. In addition, Redfin was bound by MLS rules that prohibited it from publicizing the data. The proposed settlement changed that. *See id.*; Proposed Settlement, *supra* note 85, at 5.

176. For twenty-two metropolitan areas, our data starts on June 12, 2021. For eleven, it starts on September 3, 2021. The reason is that this data was collected by Vertical Knowledge, which was hired by REX. REX initially requested data for all the major markets in which it operated. As of June 12, 2021, 22 such markets reported the buyer agent commission in a significant portion of listings (Atlanta; Austin; Boston; Camden; Chicago; Denver metro area; Fort Lauderdale; Houston; New Jersey Shore; Los Angeles; Orange County, CA; Orlando; Philadelphia; Phoenix; Portland, OR; Research Triangle, NC; Riverside County, CA; San Diego; San Antonio; Seattle; Washington, D.C. metro area; and West Palm Beach). REX later requested the same data for major metro areas in which it did not operate. It identified the fifty largest metro areas in the country, removed those in which it operated, and checked Redfin to see if the MLS(s) that serve each of these markets had started publishing buyer agent commissions as of August 2021. Twelve metro areas satisfied these criteria (Buffalo; Cleveland; Columbus, OH; Dallas; Hartford; Indianapolis; Kansas City; Nashville; Pittsburgh; Providence; St. Louis; and Virginia Beach). REX started receiving data on these additional metro areas on September 3, 2021. REX stopped receiving data about both groups on February 3, 2022. We built our own scraper in 2023 to gather additional data about each listing, such as the type of property. We were able to do this additional scraping for 97.3% of the listings that we used in our analysis.

177. *See supra* note 176.

178. For additional detail, see Github Repository, *supra* note 5.

A. *REDFIN*

Redfin compiles information about homes for sale nationwide and makes this data available at no cost via web browser and smartphone app. It is one of the most popular real estate websites in the country, attracting tens of millions of page views each month.¹⁷⁹

Users can look up homes on Redfin in several different ways. If a user is interested in a particular home, they can simply type the home's address into a search engine; the Redfin page for that home will often come up as one of the top search results.¹⁸⁰ Alternatively, the user can navigate to Redfin's landing page or app and input the home's address into the search bar.

If the user does not have a particular home in mind, they can enter a geographical area, such as a zip code, municipality, or county, into Redfin's search bar.¹⁸¹ Users can then filter their results via a number of criteria. The most prominent filters on the website are "Price", "Home type" ("House," "Townhouse," "Condo," etc.), and "Beds / Baths." Users can then scroll through the listings that match their search criteria using either the "Photos" layout or the "Table" layout. The "Photos" layout shows each home's primary photo, asking price, number of beds and baths, square footage, and address. The "Table" view shows fewer pictures but otherwise provides additional information, including the price per square foot. Figures 4 and 5 show the "Photos" and "Table" layout, respectively.

179. See, e.g., *Redfin.com December 2024 Traffic Stats*, *supra* note 100 (reporting that Redfin's website had 62.35 million views in July 2023, with 95.8% coming from the United States).

180. For example, if one types "7816 Big Wind Way Austin TX" into Google, that home's Redfin page is the second item in the search results, behind the home's Zillow page and ahead of its Realtor.com and compass.com pages. *7816 Big Wind Way Austin TX*, GOOGLE, https://www.google.com/search?q=7816+Big+Wind+Way+Austin+TX&sca_esv=599830617&rlz=1C1CHBF_enUS916US916&ei=RqSqZe3IIOHnkPIP9g6diA8&ved=oahUKEwjtg5XJ8OmDaxXhJkQIHXdvB_EQ4dUDCBA&uact=5&oq=7816+Big+Wind+Way+Austin+TX&gs_lp=Egxnd3Mtdz16LXNlcnAiGzc4MTYgQmlnIFdpbmQgV2F5IEF1c3RpbjBUWDIEEAAYHkjsUIDHUFjHUHAEeACQAQCYAU-gAU-qAQExuAEDyAEA-AEBwgIHEAAYHhiwA-IDBBgBIEGIBgQBGE&scient=gws-wiz-serp (on file with the *Iowa Law Review*).

181. REDFIN, <https://www.redfin.com> [<https://perma.cc/B2VA-QBBC>].


Figure 4: Screenshot of “Photos” Layout on Redfin



For sale ▾ Price ▾ Home type ▾ Beds / Baths ▾ All filters

40 of 3768 homes · Sort: Recommended ▾

Photos Table


NEW 4 HRS AGO





\$405,000  

3 Beds 2 Baths 1,361 Sq. Ft.
7407 Whispering Winds Dr, Austin, TX 78745


NEW 9 HRS AGO





\$755,000  

4 Beds 2 Baths 2,797 Sq. Ft.
11108 Bexley Ln, Austin, TX 78739


NEW 15 HRS AGO





\$625,000  

3 Beds 2 Baths 1,412 Sq. Ft.
600 Arbor Cir, Austin, TX 78745

NEW 15 HRS AGO



\$599,500  


4 Beds 4 Baths 2,158 Sq. Ft.
5001 Cana Cv, Austin, TX 78749

Figure 5: Screenshot of “Table” Layout on Redfin

Austin Homes for Sale Market insights | City guide

For sale ▼ Price ▼ Home type ▼ Beds / Baths ▼ All filters

40 of 3768 homes · Sort: Recommended ▼ Photos Table



\$405,000
7407 Whispering Winds Dr
Austin, TX 78745

3 Beds | 2 Baths | 1,361 Sq. Ft.

Location! Location! Location! Just 20 minutes from downtown, this home in Whispering Oaks is the perfect place to call h...[More](#)

\$/Sq. Ft.	\$298	Year Built	1973
On Redfin	4 hours	Lot Size	8,380 Sq. Ft.
HOA	None	Status	Active

[View details](#)

Address	Location	Price	Beds	Baths	Sq.Ft.	\$/Sq.Ft.	On Redfin
7407 Whisperin...	Whispering ...	\$405,000	3	2	1,361	\$298	4 hrs
11108 Bexley Ln	Circle C Ran...	\$755,000	4	2	2,797	\$270	9 hrs
600 Arbor Cir	Community ...	\$625,000	3	2	1,412	\$443	15 hrs
5001 Cana Cv	Westcreek P...	\$599,500	4	4	2,158	\$278	15 hrs
12205 Ferryston...	Stoney Ridg...	\$370,000	4	2	1,335	\$277	29 hrs
4608 Colmar Dr	East Village	\$401,602	3	2	1,548	\$259	30 hrs
5700 Steiner Ra...	Steiner Ranc...	\$1,500,000	0	—	—	—	30 hrs
3806 Southridg...	SOUTHTRIDG...	\$360,000	2	1	814	\$442	31 hrs
7705 Banpass Ln	Windmill Run	\$485,000	3	2.5	1,613	\$301	32 hrs
4208 Harcourt Dr	Milwood Sec...	\$624,900	3	2	1,792	\$349	32 hrs
2111 Jesse Owen...	Olympic Hei...	\$475,000	4	3	2,073	\$229	33 hrs

Redfin orders the listings on its website using two criteria. Generally, Redfin prioritizes listings based on how long they have been on the site, with the newest listings appearing at the top of the page and the oldest listings at the bottom. Figure 5 illustrates this.¹⁸² However, if a listing is represented by a Redfin agent, Redfin usually promotes the listing to the top of the list for the first week the listing is on the market.¹⁸³ Redfin’s share of the listing market is small; less than 2% of the listings in our data are Redfin listings.¹⁸⁴

182. See *supra* Figure 5. Users can re-sort properties by any listed category, such as square feet or price.

183. Redfin’s default practice appears to be to promote all of its listings in the search area that have been on the market for one week or less to the top of the results list. After that, it lists all remaining listings in the search area based on how long they have been on the market. See, e.g., *Houston, TX Homes for Sale*, REDFIN, <https://www.redfin.com/city/8903/TX/Houston> (on file with the *Iowa Law Review*).

184. More precisely, the figure is 1.63%. See Github Repository, *supra* note 5.

B. COMMISSION RATES

Our concern in this Article is steering by real estate agents—nudging clients away from low-commission listings and toward listings offering going-rate commissions. However, because the going-rate commission varies across U.S. real estate markets, what constitutes a low-commission listing also varies across markets.

For example, in Los Angeles, most sellers offer the buyer agent a 2.5% commission.¹⁸⁵ Thus, a seller offering 2.5% would have little to worry about when it comes to steering. In contrast, most sellers in Austin offer buyer agents a 3% commission.¹⁸⁶ This means that a seller offering only 2.5% might encounter steering.

To address this, rather than treating buyer agent commissions as raw percentages, we group commission rates in each market into categories. We use between two and four commission categories per market, depending on the distribution of commissions offered in that market. Our goal in constructing these categories is to arrange commissions based on how far below the going rate they fall (if at all). The intuition is that, as one progresses through the four categories, commissions drop further and further below the going rate.

The highest commission category (“ c_1 ”) consists of commissions that are at the going rate or higher. To ensure consistency, we determined the going rate in each market via a mathematical rule.¹⁸⁷ In many cases this was overkill, as a simple visual inspection of the relative frequencies of different commission rates in a market made it clear what the going rate was. For example, Figure 6 below shows the distribution of buyer agent commission rates in Austin; the going rate is clearly 3%. We confirmed that, in such instances, our mathematical rule-based going rate matched the going rate from our visual inspection. Every market has commissions that fall into category c_1 .

The lowest category (“ c_4 ”) consists of commissions that are below 2%. Most of these commissions still offer buyer agents a substantial amount of compensation. Within category c_4 , the median commission rate was 1.5%, and 92% of c_4 sellers offered at least a 1% commission.¹⁸⁸ That said, c_4 commissions are quite low, relatively speaking; 99% of listings offer higher

185. See *infra* Figure 8.

186. See *infra* Figure 6.

187. We defined the going rate as the lowest rate for which 1.5 times that rate’s frequency is greater than or equal to the frequency of the most common rate in that market. For example, looking at Austin, the most common rate is 3%, with 87.2% frequency. The next most common rate is 2.5%, with 10.3% frequency. $1.5 * 10.3\% = 15.45\%$. This is less than 87.2% (the frequency of the most common rate). Thus, 3% is the going rate.

To take a second example, consider Fort Lauderdale. The most common commission rate is 3%, offered by 50% of listings. Github Repository, *supra* note 5. However, the next most common commission rate is 2.5%, offered by 38.9% of listings. $1.5 * 38.9\% = 58.35\%$. This is greater than 50% (the frequency of the most common rate). Thus, all commissions of 2.5% or higher are considered going rate. *Id.*

188. *Id.*

commission rates, both nationwide and within almost every market in our sample.¹⁸⁹ Every market has commissions that fall into category c_4 .

The middle two categories fall in between these poles. The intuition is that category two (c_2) consists of commissions that are slightly below the going-rate commission, while category three (c_3) consists of commissions that are further below the going-rate commission, but that are still above the lowest commissions (c_4). More formally, c_3 includes commissions that are (1) smaller than the going-rate commission; (2) at least 2%; and (3) less than 2.5%.¹⁹⁰ Similarly, c_2 captures commissions that are larger than those in c_3 but smaller than those in c_1 .¹⁹¹

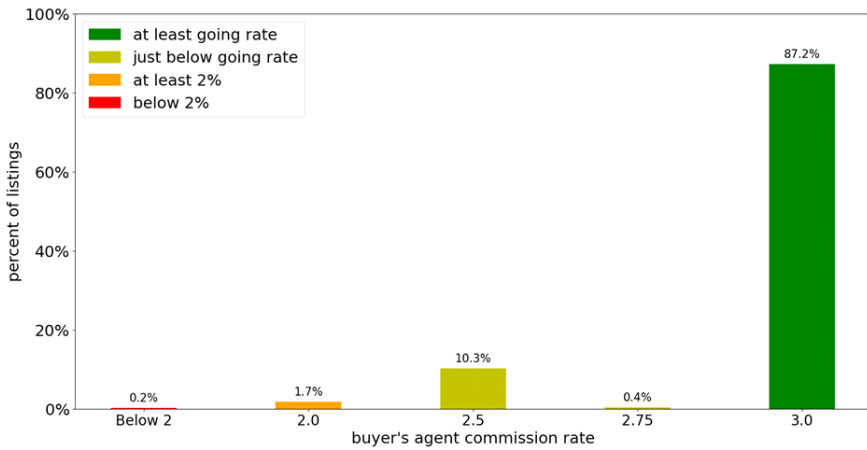
Examples help illustrate these definitions. Figure 6 shows commission frequencies and categories for Austin. The going rate is 3%; commissions at or above this level comprise category c_1 . Commissions that are less than 3%, but at least 2.5%, are in category c_2 . Commissions that are less than 2.5%, but at least 2%, are in category c_3 . Finally, the 0.2% of commissions that are less than 2% comprise category c_4 .

189. *Id.*

190. There were two markets in which we defined c_3 slightly differently. In both Portland, OR and the Research Triangle, NC, there were two commission rates between c_1 and c_4 . The rate immediately below the going-rate commission had a significant percentage of listings (more than 10% of the total); the rate below that had substantially fewer, but still a significant percentage of listings (more than 3% of the total); and c_4 listings were less than 1% of listings. This created a downward step pattern. For these markets, we defined these two intermediate rates as c_2 and c_3 , respectively. So, in Portland, OR, c_1 consists of commissions of 2.5% and higher (75.5% of listings), c_2 starts at 2.25% (18.8% of listings), c_3 starts at 2.0% (3.5% of listings), and c_4 is below 2% (0.9% of listings). In the Research Triangle, c_1 consists of commissions of 2.4% and higher (80.8% of listings), c_2 starts at 2.2% (13.2% of listings), c_3 starts at 2.0% (3.7% of listings), and c_4 is below 2% (0.5% of listings).

191. More formally, c_2 generally includes commissions that are (1) at least 2.5% and (2) smaller than the going rate. Note that there are no going-rate commissions that are higher than 3%, so, like c_3 , c_2 spans a range of at most 0.5%. *See also supra* note 190. The full distribution of commission rates for each market is available online. *See Github Repository, supra* note 5, at “buyside_commission_plots.ipynb”.

Figure 6: Distribution of Buyer Agent Commission Rates in Austin



Not all markets have commissions in categories c_2 and c_3 . For example, Figure 7 shows commission frequencies and categories for Boston, where the going-rate commission is 2%. Thus, any commissions of 2% or higher are in category c_1 , while any commissions below 2% are in category c_4 . There are no c_2 or c_3 commissions in Boston.

Similarly, Figure 8 shows commission rate frequencies in Los Angeles, where the going-rate commission is 2.5%. In Los Angeles, commissions of 2.5% and up are in category c_1 , while commissions below 2% are in category c_4 . Commissions in between are in category c_3 , as they are at least 2% but are smaller than the going-rate commission of 2.5%. There are no c_2 commissions in Los Angeles.

Figure 7: Distribution of Buyer Agent Commission Rates in Boston

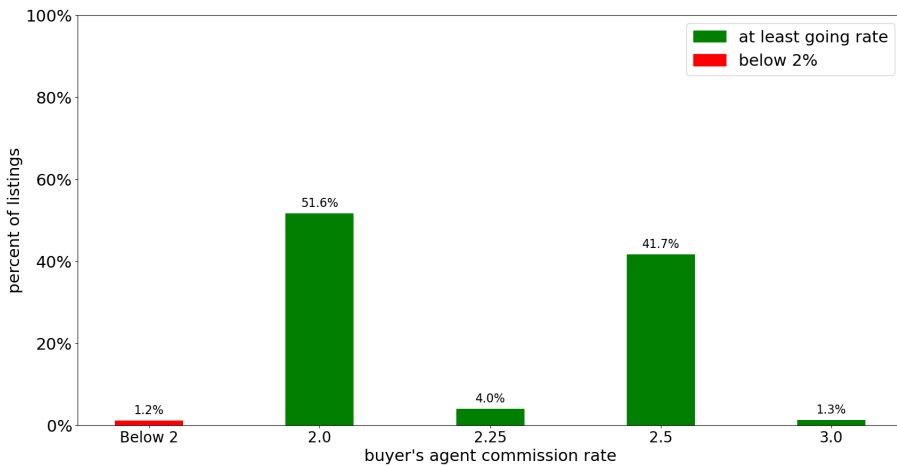
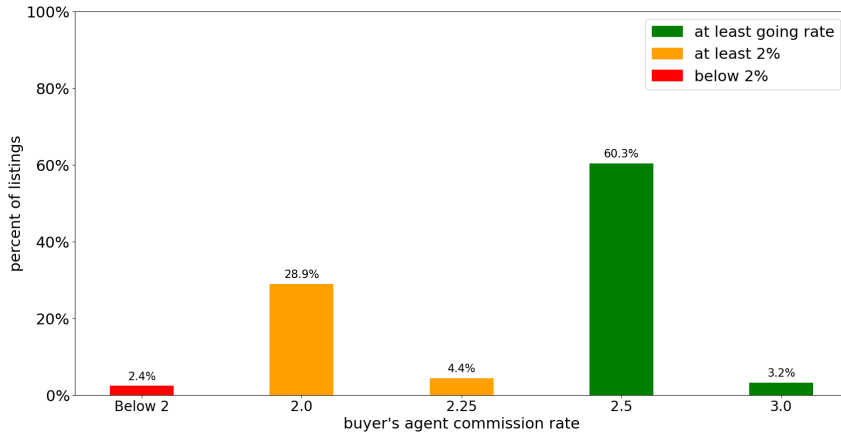


Figure 8: Distribution of Buyer Agent Commission Rates in Los Angeles



Most of the markets in our dataset look like Austin or Los Angeles; fourteen markets have commissions in category c_2 and twenty-nine markets have category c_3 commissions.¹⁹² Just five markets look like Boston, with only category c_1 and c_4 commissions.¹⁹³

Grouping the categories this way has the advantage of being intuitive and interpretable across markets. It is also conservative: Different neighborhoods within a given metropolitan area may have different going-rate commissions.¹⁹⁴ For example, most neighborhoods in Los Angeles might have a going-rate commission of 2.5%, but some neighborhoods might have a going-rate commission of 2%.¹⁹⁵ If so, listings that offer 2% commissions in neighborhoods where 2% is the going rate are in fact going-rate commissions. We would not expect buyer agents to steer clients away from such listings in the same way that they might steer clients away from listings offering 2% commissions in neighborhoods where 2.5% is the going rate. However, our groupings treat both commissions the same. Essentially, the way we categorize commission rates may treat some going-rate commissions as if they were below-going-rate

192. The markets with c_2 listings are Atlanta; Austin; Buffalo; Columbus; Dallas; Denver; Houston; Indianapolis; Kansas City; Nashville; Portland, OR; Research Triangle, NC; San Antonio; and Virginia Beach. The c_3 markets are Atlanta; Austin; Buffalo; Camden; Chicago; Cleveland; Columbus; Dallas; Denver; Fort Lauderdale; Hartford, Houston; Indianapolis; Kansas City; Los Angeles; Nashville; Orlando; Philadelphia; Phoenix; Pittsburgh; Portland, OR; Research Triangle, NC; St. Louis; San Antonio; San Diego; Seattle; Virginia Beach; Washington, D.C. metropolitan area; and West Palm Beach.

193. These five markets are Boston; New Jersey Shore; Orange County, CA; Providence; and Riverside County, CA.

194. Barwick et al.'s results suggest that this is the case in Boston, for example. See Barwick et al., *supra* note 36, at 216–17.

195. See *supra* Figure 8.

commissions. By mixing the two, we underestimate how much buyer agents steer clients away from low-commission listings.

Similarly, while c_4 commissions are a small percentage of total commissions in every market in our dataset, they are much more common in markets with going-rate commissions of 2%.¹⁹⁶ Moreover, in these markets, sub-2% commissions may not be much lower than the going rate of 2%.¹⁹⁷ Therefore, we might expect that c_4 listings in these markets would experience less steering than they would in other markets. But because c_4 commissions are more common in these markets, they will disproportionately lower our estimates of steering with respect to c_4 commissions in markets across the country.

Importantly, however, while our groupings may reduce the observed effects of steering, they should not eliminate the effects altogether. If steering is present, we generally should still see its effects in our analysis, though the magnitude of the effect may appear smaller than it actually is. At the same time, our commission groupings should not cause steering to appear present when it is not.

C. PAGE VIEWS

Our page view totals come from Redfin itself. In addition to displaying photos of and information about each listing, Redfin also displayed the number of times that each listing had been viewed on Redfin.¹⁹⁸

Once a listing is posted on Redfin, its page views increase over time as more people visit the site. To make sure we are comparing apples to apples, we need to compare the page views that each listing received after being on

196. In all five of these markets, more than 1% of total listings offer less than a 2% commission. In two of these markets (Orange County and Riverside), more than 3% of total listings offer less than a 2% commission.

197. See Github Repository, *supra* note 5.

198. We note that Redfin ceased reporting page views in July 2022 due to “technical issues.” They stated that this change was temporary and that they would restore the feature when these technical problems are resolved. *Property Activity*, REDFIN HELP CENTER, <https://web.archive.org/web/20221005152434/https://support.redfin.com/hc/en-us/articles/360017797051-Property-Activity> (on file with the *Iowa Law Review*). Redfin has since stated that “the system calculating [page view] data was not scaling with our growing website traffic, and therefore was unreliable.” E-mail from Chen Zhao, Redfin Senior Manager – Analytics, Economics, to Authors (Oct. 23, 2023) (on file with the *Iowa Law Review*). Random errors in Redfin’s page view numbers would be expected to increase the residual error terms in our regression—in other words, they would likely reduce the ability of our regression models to predict page views, given our inputs. However, unless these errors were tied to buyer agent commissions in some way, they would not distort our point estimates of the effect of buyer agent commissions on page views. See, e.g., MICHAEL H. KUTNER, CHRISTOPHER J. NACHTSHEIM, JOHN NETER & WILLIAM LI, *APPLIED LINEAR STATISTICAL MODELS* 165 (5th ed. 2005). For example, if Redfin’s reported page view numbers were 20% too high (or too low) for every listing, that would not affect our results; our regression models consider how many page views listings receive relative to other listings, not the absolute number of page views. Alternatively, if Redfin over- or undercounted some listings’ page views (such as by double-counting some views or not counting others), that would only affect our estimates of steering if the amount of over- or undercounting was linked to buyer agent commission rates. We see no reason why that would be the case.

the site for the same number of days.¹⁹⁹ This way, each listing has the same amount of time to accumulate page views. Thus, we must choose a number of days on site at which to measure all listings' page views. Additionally, listings tend to receive significantly fewer page views once they go under contract. Therefore, we also need to limit the analysis to listings that remained on the market for the entire period of interest.²⁰⁰

We measure page views for each listing once it has been on Redfin for eight days.²⁰¹ We use this time frame for three reasons. First, our weekly scraper collected the most data for listings with this time on site.²⁰² Having more data gives our statistical analysis more power. Second, some days of the week are more active for real estate than others; examining page views after eight days ensures that each listing has been up for one full week, including both a weekend and workdays. We can therefore expect page view data after eight days on site to be less noisy and more stable than page views after only two or three days. Finally, most listings are still on the market as of eight days.²⁰³

To put all markets on the same scale, we scaled the data so that the average number of page views for a listing that offered a going-rate commission was one hundred. Tables 1 and 2 illustrate this process with respect to the Austin data.²⁰⁴

Table 1: Average Page Views for Each Commission Category in Austin

Commission Category	Average Page Views as of Eight Days	Number of Listings
At least going rate (c_1)	724	8,757
Just below going rate (c_2)	667	1,191
At least 2% (c_3)	670	186
Below 2% (c_4)	532	23

199. In counting the number of days, the first day is the day the listing is posted.

200. Consider the listings in the dataset that were scraped both as of two days on site and as of nine days on site. Those that remained on the market as of nine days on site averaged 313 page views between day two and day nine. Those that went under contract within two days on site averaged 57 page views between day two and day nine.

201. More precisely, we used eight or nine days. To ensure that all listings were analyzed on the same scale, the page views of listings that were on Redfin's site for nine days were adjusted downward to account for their longer time on site. For example, suppose that the average listing in a given market received eighty page views as of eight days and ninety views as of nine days. We would then scale down the number of page views for listings that were measured as of nine days by a factor of 80/90, to keep both groups of listings on an equal footing.

202. See Appendix, *supra* note 48, at 1 tbl.A.1.

203. After eight days on the market, 71% of listings in our dataset have not yet gone into contract. Github Repository, *supra* note 5. This reduces the potential impact of survivorship bias on our results. See, e.g., Stephen J. Brown, William Goetzmann, Roger G. Ibbotson & Stephen A. Ross, *Survivorship Bias in Performance Studies*, 5 REV. FIN. STUD. 553, 553–61 (1992) (describing an example of survivorship bias).

204. We present this information for each market in our data in the Appendix. Appendix, *supra* note 48, at 2–4 tbl.A.2.

Table 2: Average Scaled Page Views for Each Commission Category in Austin²⁰⁵

Commission Category	Average Page Views as of Eight Days	Number of Listings
At least going rate (c_1)	100	8,757
Just below going rate (c_2)	92.2	1,191
At least 2% (c_3)	92.5	186
Below 2% (c_4)	73.4	23

Tables 1 and 2 show that Austin listings that offer commissions that are below the going rate receive significantly fewer page views. This is true even for listings that offer commissions that are only slightly below the going rate (c_2). The number of page views drops off more dramatically for the listings that offer the lowest commissions (c_4).

We observe these trends in most markets in our dataset.²⁰⁶ Of course, to be confident that the relationship is causal, one must control for confounding variables.²⁰⁷

D. GEOGRAPHIC AREA

Recall that geographic location is the first criterion that Redfin users employ to limit their search results. Beyond controlling for each market, we also control for the desirability of each listing's geographic neighborhood within that market. This gives us added confidence that any effects we observe of buyer agent commission rates on page views are actually driven by commission rates and not by the home's location within the market.²⁰⁸

We control for each listing's geographic desirability by calculating the average number of Redfin page views of the listings that are geographically nearest to each listing. Because we want to capture the desirability of each listing's immediate vicinity as well as the appeal of the broader neighborhood,

205. The numbers in Tables 1 and 2 differ slightly due to rounding.

206. See Appendix, *supra* note 48, at 2-4 tbl.A.2.

207. See *infra* Part III. It is hard to be absolutely certain that one has accounted for all possible variables that are linked to both the explanatory and the response variables. However, we use our data to investigate several alternate explanations for our results, and the data does not seem to support them. See *infra* Sections III.B.5, III.C.4.

208. For example, suppose that homes in a particular neighborhood within the market offer lower buyer agent commissions and are less desirable homes for unrelated reasons. Listings in that neighborhood might garner fewer page views because they are less desirable places to live, and not because of steering by buyer agents. If we did not control for location, our analysis might misattribute the lower page views to the lower buyer agent commissions. Controlling for location addresses this concern and gives us added confidence that any effects we see from low buyer agent commissions are actually caused by those low commissions.

we include controls that capture page views for listings within different degrees of nearness.²⁰⁹

E. OTHER SEARCH CRITERIA

Beyond location, the chief criteria by which users narrow down their search results are “Price,” “Home type,” and number of “Beds / Baths.” We control for all of these home features. This is important, because some of these features could plausibly be linked to both page views and buyer agent commission rates.²¹⁰ If we did not control for them, our regression could misattribute to buyer agent commission rates effects that are actually caused by other factors.²¹¹ Controlling for these other factors addresses these concerns and gives us added confidence that the effects we observe in connection with low buyer agent commission rates are actually caused by those low commission rates.

In addition, sellers who offer lower buyer agent commissions may price their homes differently from other sellers. For example, they may be more likely to price their homes above market value.²¹² All else being equal, Redfin users might be less likely to click on overpriced homes.²¹³ To address this concern, we control for the percent difference between each home’s asking price and Redfin’s estimate of that home’s fair market value.²¹⁴ This metric

209. Instead of arbitrarily choosing different values for the number of nearest listings to use, we applied forward stepwise linear regression to answer this question. This procedure indicated that we should consider the nearest 5, 10, 30, 100, and 200 listings. The details for interested readers are in the Appendix. *See* Appendix, *supra* note 48, at 41.

210. For example, higher-priced homes might be more likely to offer lower buyer agent commission percentages because the buyer agent would still be well compensated. For example, a million-dollar home with a 2% buyer agent commission would still generate a \$20,000 payment to the buyer agent. In addition, higher-priced homes may generate less traffic on Redfin because fewer buyers can afford them. If these scenarios were true, and we did not control for home price, then low buyer agent commissions would be linked to lower page views, even though the high home price was the cause of both phenomena. Controlling for the asking price addresses this concern.

The same logic would apply if single-family homes received more page views than other property types and also offered higher buyer agent commissions. Controlling for property type likewise addresses this concern.

211. Similarly, we also control for other home features, including square footage, year built, and the presence of an HOA fee.

212. The opposite might also be true.

213. Overpricing could also place homes outside of some buyers’ price filters.

214. To ensure that the Redfin price estimate is an unbiased estimate of the true fair market value of a home, we compared the Redfin price estimates to the sale prices of the listings in the dataset that went under contract within thirty days of listing. We used homes that sold within thirty days of listing for this analysis to reduce concerns that housing prices had changed significantly between the time each home was listed and the time it went under contract. Figure A.3 in the Appendix shows the distribution of the percent difference between the Redfin price estimate and the eventual sale price. The distribution is close to normally distributed around zero, which confirms that the Redfin price estimate is nearly unbiased and can thus be relied on to gauge the extent to which a listing is overpriced or underpriced. *See* Appendix, *supra* note 48, at 5 fig.A.3(a).

captures the extent to which a listing is overpriced or underpriced. On average, Redfin's estimates were quite accurate; they were only off by 0.2% of the purchase price, on average.²¹⁵ Moreover, most homes sold within 3% of Redfin's estimate.²¹⁶

Some of the listings in our dataset do not have Redfin price estimates.²¹⁷ In these cases, we imputed a value based on the asking price.²¹⁸ We also created a dummy variable that indicated whether the Redfin price estimate was missing.²¹⁹ This dummy variable captures the effect of a missing Redfin price estimate on the number of page views a listing receives.

F. LISTING AGENTS

Variation in listing agents raises several possible issues. In particular, one might be concerned that sellers offering lower buyer agent commissions would tend to have less-effective listing agents.²²⁰ If so, poorer performance by listing agents could explain lower page views and other adverse outcomes, rather than steering by buyer agents.²²¹ We take multiple measures to address this potential problem.

In our data, we observe listing agents' names and brokerage firms. This enables us to take several actions to address listing agent quality. First, we use dummy variables to identify listing agents who work for each of the large national real estate brokerage firms.²²² This accounts for any difference in outcomes due to the average quality of agents at each of these firms. We also

215. This is the case for both the mean and the median. *See id.* The results are similar when broken out by commission category, though the average percent error varies slightly across categories. *See id.* at 5 figs.A.3(b)–(e).

216. Of homes that sold within thirty days, 50% sold within 2.86% of the Redfin estimate; 92% sold within 10% of the Redfin estimate. Github Repository, *supra* note 5.

217. Out of the approximately 265,000 listings in the dataset, 28% lacked a Redfin price estimate.

218. The distributions of Redfin price estimates and asking prices in our dataset are quite close; the median percent difference between a home's Redfin price estimate and its asking price is 0.0%. We therefore imputed a percent difference of zero, which meant we assumed that the Redfin price estimate was equal to the asking price. *See* Appendix, *supra* note 48, at 8 fig.A.4.

219. *See infra* Section II.H.

220. *Cf. infra* Section III.B.4.ii (providing evidence that listing agents are trained to persuade their clients to offer going-rate buyer agent commissions). Moreover, total commissions are often split between the listing agent and the buyer agent in a fixed ratio, such as 50% apiece. *See, e.g.,* 1 FTC REPORT, *supra* note 17, at 22; Barwick et al., *supra* note 36, at 209. A lower buyer agent commission may thus indicate a lower listing commission. A listing agent willing to accept a lower commission may be a less talented agent. If so, poor performance by the listing agent could drive reduced page views, longer time to sell, and reduced probability of sale, rather than steering by buyer agents.

221. It is also possible that reduced effort by listing agents, rather than lower quality of listing agents, explains some of our results. This would essentially mean that listing agents are acting in a self-interested manner along with, or instead of, buyer agents, which would be similarly problematic from a policy perspective.

222. These are Berkshire Hathaway, Century 21, Coldwell Banker, Compass, eXp Realty, Keller Williams, RE/MAX, and Redfin.

account for listings in which Redfin is the listing agent, as these tend to get better placement in search results and hence more page views.²²³

Second, we use our data to calculate the market share of each listing agent's brokerage. For example, if there are ten thousand Austin listings in the dataset, and a given brokerage listed one hundred of them, then that brokerage's market share in Austin would be 1%.²²⁴ To the extent that better brokerages get more listings, this gives us another way to account for the quality of each brokerage's listing agents.

Third, and most importantly, we rerun each of our regression models on the subset of properties whose listing agents have at least one listing in our dataset that offered a low buyer agent commission. If listing agents who list homes with low buyer agent commissions are of lower quality than other listing agents, then restricting our dataset to these listing agents would address this issue.²²⁵ These robustness tests produce estimates that are not statistically significantly different from our original estimates.²²⁶

There are two other potential issues related to listing agents. First, our data shows that iBuyers tend to offer lower buyer agent commissions.²²⁷ Recall that iBuyers make immediate cash offers, enabling sellers to avoid the conventional home-selling process.²²⁸ Presumably, such offers would be particularly attractive to sellers who think it would be difficult to sell their homes on the open market. Thus, the properties that iBuyers purchase (and subsequently sell) may be less appealing to homebuyers than other listed properties. In addition, existing real estate agents may feel threatened by iBuyers.²²⁹ If so, they might respond by steering clients away from iBuyer properties. This steering—while still quite problematic—would not be due to iBuyers offering low buyer agent commissions.

223. See *infra* Section III.B.5.

224. $100 / 10,000 = 1\%$. We control for brokerages rather than for specific listing agents because our data is confined to an eight-month window. Most agents had few listings over that time frame.

225. We discuss this regression *infra* Section III.B.5.

226. See *infra* Section III.B.5.

227. Github Repository, *supra* note 5; see also Mike DelPrete, *Opendoor's Buyer Agent Commission Advantage*, MIKE DELPRETE (Sept. 8, 2022), <https://www.mikedp.com/articles/2022/9/8/opendoors-buyer-agent-commission-advantage> [<https://perma.cc/GT7B-M8PT>] (“Opendoor’s buyer agent commissions range from 0.5 to 1 percent lower than the market average.”).

228. See *supra* Section I.A.

229. See, e.g., Wood, *supra* note 114 (quoting Brad Inman, founder of real estate publication Inman News, as predicting that iBuyers might soon command “50% of the national real estate market”); R.A. Schuetz, *Houston Real Estate Agents Caught on Tape Steering Buyers Away from Homes with Less Commission*, HOUS. CHRON. (Jan. 12, 2021, 1:08 PM), <https://www.houstonchronicle.com/business/article/houston-real-estate-agents-less-commission-records-15857087.php> (on file with the *Iowa Law Review*); Audiotape: Houston Chronicle Call 1, at 5:30, held by unidentified Houston real estate agent, and Brian from REX (n.d), https://www.dropbox.com/scl/fi/uyudjyn5gqrjot23852j/houston_chronicle_call_1.mp3?rlkey=ulgbdna3lngrx1rdocohhes3z&dl=0 (on file with the *Iowa Law Review*) (displaying recorded call between discount broker REX and an agent in which the agent states, “It’s your prerogative to do whatever you want to do. But I can’t aid in the demise of my profession. . . . So I’m not going to show [your] properties”).

Because our dataset includes the identity of the listing agent and their brokerage, we are able to control for whether the property is listed by an iBuyer.²³⁰ This addresses concerns that iBuyer listings—which constitute less than 2% of listings in our dataset—may be driving our page view results rather than commission rates.²³¹

Similarly, home builders tend to offer lower buyer agent commissions than other sellers do. New-construction homes may also tend to receive less interest from homebuyers than existing homes. To address this issue, we exclude properties listed by home builders from our analysis. We also exclude any properties built in 2020 or later, as these are likely to be new-construction homes as well.

G. TIME

Real estate market conditions change over time. For example, buyer agent commission rates or buyer demand may have changed over the course of our dataset. Buyer demand could also have affected the amount of traffic on Redfin. To make sure that any time trends do not distort our analysis, we control for the month that each listing was scraped.²³²

H. DUMMY VARIABLES AND DATA CLEANING

Several of our control variables are continuous, but it is not clear what relationship they should have with our variables of interest (that is, page views, time to sale, and probability of sale). For example, page views might have a complex relationship with sale price, depending on the population of homebuyers in a given market.²³³ Rather than assuming how these variables are related, we let the data speak for itself. We split the following variables into ten dummy variables, each corresponding to a different decile: year built, asking price, market share of the listing brokerage, and percent difference between the asking price and the Redfin price estimate. Similarly, we split square footage into five dummy variables and the number of bedrooms and bathrooms into three dummy variables each.²³⁴

To ensure that our analysis is as clean as possible, we excluded certain listings. As discussed above, we excluded homes that were listed by home

230. The three iBuyers in our dataset are Opendoor, Offerpad, and Zillow.

231. More precisely, homes sold by iBuyers comprised 1.92% of listings in our dataset. See Github Repository, *supra* note 5.

232. More specifically, the month it was scraped by Vertical Knowledge. See *supra* note 176 and accompanying text.

233. For example, there might be many buyers looking for small condominiums that are relatively cheap, and many buyers looking for larger houses that are relatively expensive, but few buyers looking for homes priced in the middle (e.g., large condominiums or small houses).

234. As with the decile dummy variables, these dummy variables correspond to x% intervals in each market. For example, one dummy variable corresponds to the smallest 20% of homes in a geographic market, another corresponds to the next largest 20%, and so on. Github Repository, *supra* note 5.

builders or built in 2020 or later.²³⁵ We also removed listings that were missing the buyer agent commission offered or the days on site.²³⁶ To prevent unrepresentative outliers from skewing our results, we removed the most expensive 5% of listings and the least expensive 5% of listings in each market.²³⁷ Finally, we limited the analysis to single-family homes, condos, townhouses, and multifamily homes.²³⁸ This removed the roughly 1% of listings that were plots of undeveloped land, manufactured or mobile homes, or other relatively uncommon property types. After this cleaning process, approximately 265,000 listings remained in our dataset.²³⁹

III. OUR FINDINGS

We now turn to our statistical analysis. We begin by describing our statistical approach. We then present our results for the effects of lower commissions on page views. Finally, we analyze how long it takes for a low-commission home to sell—and the probability of such a home selling at all.

A. OUR STATISTICAL APPROACH

We use Bayesian hierarchical modeling to conduct our regression analyses. Before turning to our results, we provide some brief intuitive background on what this approach entails.²⁴⁰

Conceptually, regression analysis estimates the relationships among variables based on observations of those variables. For example, suppose that one had data on key features of homes in a particular real estate market—square footage, number of bedrooms, number of bathrooms, and so forth—as well as the sale prices of those homes. One could then use regression analysis to estimate the relationships between those features and home sale prices. Essentially, fitting a regression estimates the relationships between each of

235. See *supra* Section II.F (“We also exclude any properties built in 2020 or later, as these are likely to be new construction homes as well.”).

236. We also drop additional listings for certain analyses that lack data required for such analyses. For example, we drop listings that do not include page view information from our page view analysis. We provide additional detail on this when discussing those analyses. See, e.g., *infra* notes 359–60 and accompanying text. For some reason, Redfin does not report the days on site for listings in the Nashville metropolitan area. As a result, we could not use data from Nashville in our page view, time to sale, or probability of sale analyses.

237. This general process of reducing the effect of outliers is common and is known as trimming. See, e.g., H. J. Keselman, Rand R. Wilcox, Abdul R. Othman & Katherine Fradette, *Trimming, Transforming Statistics, and Bootstrapping: Circumventing the Biasing Effects of Heteroscedasticity and Nonnormality*, 1 J. MOD. APPLIED STAT. METHODS 288, 289–90 (2002).

238. 98.6% of the listings in the dataset with stated property types fall into these four common categories. We therefore also include the 3.2% of listings where the property type is missing, on the assumption that almost all of these listings fall into one of the four common categories. Rather than impute a property type for each of these listings, we define a fifth property type called “null.” Github Repository, *supra* note 5.

239. More precisely, 264,139. *Id.*

240. We provide more technical detail in our online appendix. See Appendix, *supra* note 48, Section B.2, at 42–43.

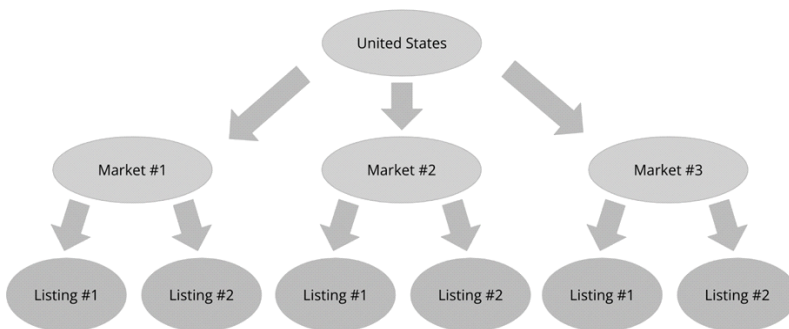
those variables and home sale prices, based on the homes in the dataset. For instance, the available data might indicate that, all else being equal, each additional square foot adds \$200 to a home's value; an extra bedroom adds \$10,000; and an extra bathroom adds \$20,000.

While this approach is appropriate when a dataset is limited to home sales in a single market, it is not suitable when a dataset consists of home sales in multiple markets across the country.²⁴¹ The issue is that this approach generally assumes that each variable affects the sale price of each home in the same way. This may not be true across all markets; the value of an additional bedroom may be different in Manhattan than in Jacksonville. Treating the effects as the same will misrepresent the relationship between each variable and sale price.

One way to address this issue is to analyze each market completely separately. However, this approach has its own drawbacks, as it ignores potential similarities across markets; markets across the country are unlikely to behave completely independently of one another. Ideally, the regression analysis should treat different markets within the country as distinct from each other and yet still related.

We do so by conceptualizing the U.S. residential real estate market as having three levels. The highest level is the U.S. residential real estate market taken as a whole. The level below that consists of the individual geographic real estate markets within the United States, such as Atlanta, Boston, and Chicago. The lowest level consists of the many individual properties listed for sale in each market. Figure 9, below, illustrates this graphically. Notice that we only collect data on the bottom level of the hierarchy. Our goal is to use that data to make inferences about the two levels above it—the geographic market level and the national level.

Figure 9: The Hierarchical Structure of This Analysis



Hierarchical modeling enables us to perform inference on both levels simultaneously. The sample of listings that we collect in each market naturally informs us about the state of that market overall. But just as we observe a sample

241. We nonetheless run such a regression as a robustness check. The results are quite similar to the results of our Bayesian analysis. See *infra* note 339.

of listings in each market, so too we observe a sample of markets across the country. Therefore, what we observe in each market in turn informs us about what is happening at the national level as well.

In addition, our information about each market also informs our understanding of all the other markets. An analogy may be helpful here. Suppose you knew that home sellers in Atlanta interview an average of three listing agents before selecting one. What does that tell you about how many agents home sellers typically interview in Boston?

The answer depends on how similarly home sellers in Atlanta and Boston behave. On one extreme, Atlanta and Boston might be completely different. In this scenario, knowing about Atlanta's interviewing practices tells you nothing about Boston's; your Atlanta knowledge is of no help to you whatsoever. On the opposite extreme, Atlanta and Boston might be exactly the same. In that case, your Atlanta knowledge is a perfect guide to Boston; everything you know about Atlanta translates directly to the Boston market.

In reality, the truth is likely somewhere in the middle. Real estate markets in different cities have commonalities, but also differences. Knowledge about one market is likely to prove helpful in other markets but will not translate perfectly.

One can make better predictions about the Boston market if they have information about many other real estate markets. For example, if you are knowledgeable about thirty U.S. real estate markets, and sellers typically interview three agents in each of them, it seems likely that sellers in Boston will also interview three agents. Conversely, if sellers in fifteen markets interview three agents, but sellers in the other fifteen markets interview ten agents, you will be far less certain about Boston interviewing practices.

The power of Bayesian hierarchical modeling is that it automatically detects where along this spectrum the data falls, and pools information across markets accordingly. In other words, the more that different geographic markets behave similarly, the more that the observations from each market inform our analysis of other markets. Conversely, the more the data indicates that different markets behave differently, the less the observations from each market inform our analysis of other markets.

A downside of fitting Bayesian hierarchical models is that they require advanced mathematics and can be computationally expensive. Fortunately, new algorithms have been invented over the past decade that are automated and more computationally efficient. We rely on two of these novel algorithms to fit our regression models: the No-U-Turn sampler, which was introduced by Hoffman and Gelman in 2014, and automatic differentiation variational inference, which was introduced by Kucukelbir et al. in 2017.²⁴² It took fifty-

242. See Matthew D. Hoffman & Andrew Gelman, *The No-U-Turn Sampler: Adaptively Setting Path Lengths in Hamiltonian Monte Carlo*, 15 J. MACH. LEARNING RSCH. 1593, 1596–610 (2014) (explaining the design of the No-U-Turn algorithm); Alp Kucukelbir, Dustin Tran, Rajesh Ranganath, Andrew Gelman & David M. Blei, *Automatic Differentiation Variational Inference*, 18 J. MACH. LEARNING RSCH. 1, 4–13 (2017).

two hours to fit our main regression model on page views in the probabilistic programming package PyMC3.²⁴³

B. LOW COMMISSIONS AND PAGE VIEWS

Before we analyze the effect of buyer agent commission rates on page views, it is worth briefly noting why we analyze page views instead of skipping straight to sale outcomes. For instance, Barwick et al. showed strong evidence of steering in the Boston area just from analyzing these sale outcomes.²⁴⁴ In other words, by showing that low-commission listings experience worse sale outcomes, Barwick et al. kill two birds with one stone: They quantify the effects of steering and, in doing so, implicitly show that steering takes place.²⁴⁵

We first focus on page views for three main reasons: First, analyzing the impact of low buyer agent commissions on page views gives us an additional way to investigate how frequently steering takes place. We find that the results of our sale outcome analyses and our page view analyses closely mirror each other, which gives us additional confidence in our results. Second, steering is fundamentally about directing clients' attention—toward particular homes and away from others. To study steering itself, rather than its effects, one would ideally want some measure of where clients are directing their attention. Redfin page views are an excellent, if imperfect, measure of how much attention a home is garnering, and thus of how much steering is taking place. Third, the sale outcome analysis can show the prevalence and effects of steering, but it does not show any specific mechanisms through which steering occurs. The page view analysis does show a mechanism; namely, buyer agents skipping over low commission properties when deciding which listings to forward to their clients.

Section III.B.1 presents the mechanism through which buyer agent commission rates may affect page views: specifically, buyer agents curating the listings they send to their clients. All else being equal, we believe that buyer agents are more likely to forward their clients high-commission listings than low-commission listings. Section III.B.1 also discusses outside evidence that buyer agents send select listings to their clients and that this is a common way for buyers to find properties. Section III.B.2 presents the results of our regression analysis, which indicates that buyer agents steer clients away from homes with low buyer agent commissions. Section III.B.3 presents our regression analysis of iBuyer listings, which provides further evidence of steering by buyer agents. Section III.B.4 considers additional evidence outside

243. By comparison, it took around ten minutes to fit an ordinary least squares regression model that estimates all the coefficients separately for each market in the analysis.

244. Barwick et al., *supra* note 36 (finding that properties that offer lower commissions take significantly longer to sell and are less likely to sell at all).

245. Buyer agents both know and care about the commissions that they are offered. In contrast, there is no reason to think that buyers themselves know or care about the commission rates that sellers offer to buyer agents. If, all else equal, low-commission listings experience worse sale outcomes, then steering by buyer agents is a natural explanation.

of our regression analysis that could bolster or reduce our confidence in our regression results. Overall, the evidence in Section III.B.4 provides substantial additional support that buyer agent steering is a widespread phenomenon in the United States. Finally, Section III.B.5 considers possible alternative explanations for what we observe and presents our efforts to investigate those possibilities. The results of these analyses support our conclusions.

1. Our Proposed Mechanism: Buyer Agents Curating Listings

Buyer agents regularly monitor the MLS for listings that meet their clients' criteria. They then review those listings, select those that they think may be suitable, and forward them to their clients for review.

Buyer agents can send their clients listings in a variety of ways. They can send a link to the property's MLS listing.²⁴⁶ They can print out a copy of the MLS listing and deliver it to the client. They may provide a link to the listing on a publicly available website such as Redfin, Zillow, or Realtor.com, or to a website operated by either the listing agent's or the buyer agent's brokerage. They might simply send the address to the client and leave it to them to look it up on their preferred portal.²⁴⁷

Once buyers receive listings from their agents, they look at the listings that interest them. In many instances, the client will view the listing on a public portal such as Redfin, Zillow, or Realtor.com. These sites are designed to be attractive ways for potential buyers to view homes, and they are extremely popular, attracting hundreds of millions of visits each month.²⁴⁸ Moreover, if one enters a residential address into a search engine, these sites frequently appear at the top of the search results.²⁴⁹

We hypothesize that buyer agents are less likely to send their clients listings that offer low buyer agent commissions. This would result in fewer potential buyers becoming aware of low-commission listings, which would translate into fewer views of those listings' Redfin pages. To be clear, we are not suggesting that buyer agents never forward low-commission listings, or that every buyer agent behaves this way. Nor are we suggesting that all buyers look at listings on Redfin. So long as some buyer agents behave this way, and

^{246.} Although buyers cannot directly access the MLS, many MLSs have public-facing portals that allow clients to view listings that are sent by their agents. *See, e.g., OneHome™ Frequently Asked Questions*, STELLAR MLS, https://web.archive.org/web/20210811142858/https://www.stellarmls.com/content/uploads/2021/08/OneHome_FAQsFinal.pdf (on file with the *Iowa Law Review*).

^{247.} This is of course not intended to be an exhaustive list.

^{248.} *See, e.g., Redfin.com December 2024 Traffic Stats*, *supra* note 100; *Zillow.com December 2024 Traffic Stats*, SEMRUSH, <https://www.semrush.com/website/zillow.com/overview> [<https://perma.cc/A4DA-B7PK>] (reporting 256.9 million views in December 2024, with 94% coming from the United States); *Realtor.com December 2024 Traffic Stats*, SEMRUSH, <https://www.semrush.com/website/realtor.com/overview> [<https://perma.cc/NTB5-Y9SB>] (reporting 86.1 million views in December 2024, with 94.3% coming from the United States); *Trulia.com December 2024 Traffic Stats*, SEMRUSH, <https://www.semrush.com/website/trulia.com/overview> [<https://perma.cc/64MR-RGHF>] (reporting 19.7 million views in December 2024, with 93.9% coming from the United States).

^{249.} *See supra* note 180.

some buyers look at some listings on Redfin, low-commission properties should tend to receive fewer page views on Redfin than comparable properties that offer going-rate commissions.²⁵⁰

There is considerable evidence that buyer agents forward listings to their clients, that this is an important mechanism through which buyers learn about suitable homes, and that buyers view potential homes on Redfin and similar sites. NAR conducts extensive annual surveys about how buyers engage with the home-buying process and what they most value in agents. In these surveys, NAR asks recent buyers what the most difficult part of their home-buying process was. Buyers' most common answer—by far—was “[f]inding the right property.”²⁵¹ Similarly, buyers identify “[h]elp find[ing] the right home to purchase” as what they want most from their agents.²⁵² Buyers selected that answer more than three times as often as the next most common choice.²⁵³ Similarly, two-thirds of buyers say it's important that their agent “[s]ends [them] postings as soon as a property is listed/the price changes/under contract.”²⁵⁴ Buyers also commonly stated that it was important for their agents to send “reports on recent listings and sales” and “property info.”²⁵⁵

Buyers indicated that their agents had a large impact on their buying behavior. When asked about which information sources they used in their home search, buyers' most common answer was their agent.²⁵⁶ Almost 30% of

250. For example, suppose that there are two hundred buyer agents in a city and each has five clients. Each client looks at 25% of the listings they receive from their agent on Redfin. The Redfin page of a typical listing that offers a going-rate commission will get 250 page views through this mechanism (200 agents * 5 buyers per agent * 25% of listings viewed on Redfin). On the other hand, if each buyer agent has a 10% chance of not forwarding a listing that offers a low commission, a low-commission listing's Redfin page will only get 225 page views through this mechanism (200 agents * 90% chance of forwarding * 5 buyers per agent * 25% of listings viewed on Redfin).

251. NAR 2023 REPORT, *supra* note 72, at 53; *see also* NAT'L ASS'N OF REALTORS RSCH. GRP., 2022 HOME BUYERS AND SELLERS GENERATIONAL TRENDS REPORT 56 (2022) [hereinafter NAR 2022 REPORT], <https://www.nar.realtor/sites/default/files/documents/2022-home-buyers-and-sellers-generational-trends-03-23-2022.pdf> [<https://perma.cc/7R5E-MER8>] (56% of buyers; the next most common answer was 18%); NAT'L ASS'N OF REALTORS RSCH. GRP., 2021 HOME BUYERS AND SELLERS GENERATIONAL TRENDS REPORT 56 (2021) [hereinafter NAR 2021 REPORT], <https://www.nar.realtor/sites/default/files/documents/2021-home-buyers-and-sellers-generational-tr-ends-03-16-2021.pdf> [<https://perma.cc/CP2J-9MWM>] (53% of buyers).

252. NAR 2023 REPORT, *supra* note 72, at 66 (49% of buyers); *see also* NAR 2022 REPORT, *supra* note 251, at 69 (52% of buyers); NAR 2021 REPORT, *supra* note 251, at 69 (51% of buyers).

253. NAR 2023 REPORT, *supra* note 72, at 66 (49% of buyers versus 13% for “[h]elp[ing] buyer negotiate the terms of sale”); *see also* NAR 2022 REPORT, *supra* note 251, at 69 (52% of buyers versus 13%); NAR 2021 REPORT, *supra* note 251, at 69 (51% of buyers versus 13%).

254. NAR 2023 REPORT, *supra* note 72, at 73 (66% of buyers); *see also* NAR 2022 REPORT, *supra* note 251, at 76 (72% of buyers); NAR 2021 REPORT, *supra* note 251, at 76 (69% of buyers).

255. NAR 2023 REPORT, *supra* note 72, at 73 (71% of buyers identifying “[s]ends me property info and communicates via text message”; 41% for “[c]an send market reports on recent listings and sales”); *see also* NAR 2022 REPORT, *supra* note 251, at 76 (71% and 52%, respectively); NAR 2021 REPORT, *supra* note 251, at 76 (68% and 50%, respectively).

256. NAR 2023 REPORT, *supra* note 72, at 50 (86%); *see also* NAR 2022 REPORT, *supra* note 251, at 53 (87%); NAR 2021 REPORT, *supra* note 248, at 53 (87%).

buyers reported that their agent found the home they ultimately purchased.²⁵⁷ Thus, agents are an important way in which buyers find homes and, as a result, they possess some gatekeeping power.

Nearly all buyers—96% overall and 99% aged 42 and under—searched for homes on the internet.²⁵⁸ NAR does not ask buyers about how frequently they looked at listings using specific websites or apps. Nonetheless, its surveys suggest that buyers frequently use public portals such as Redfin. As noted above, most buyers reported that receiving listings from agents was important to them.²⁵⁹ However, only a minority of buyers thought it important that their agent have their own site to show listings.²⁶⁰ This suggests that buyers frequently use public websites, such as Redfin, to view listings they receive from their agents.

To further investigate this question, we conducted our own survey of recent home buyers.²⁶¹ We received responses from 184 homeowners who purchased a home within the past five years with the help of a real estate agent. Among respondents, 92% affirmed that their agent emailed or texted them properties of interest.²⁶² Within that group, 83% reported receiving lists of active listings at least once a week. Moreover, 90% of respondents who received listings from their agents reported viewing them on public portals such as Zillow, Trulia, Realtor.com, and Redfin.²⁶³ Overall, the median buyer viewed 70% of the listings their agents recommended.²⁶⁴

257. NAR 2023 REPORT, *supra* note 72, at 52 (29% of buyers); *see also* NAR 2022 REPORT, *supra* note 251, at 55 (28% of buyers); NAR 2021 REPORT, *supra* note 251, at 55 (28% of buyers). This represents a decline from the pre-internet era. *See* FTC REPORT, *supra* note 17, at 132 n.352 (reporting that in the FTC Consumer Survey of recent home buyers who had had a broker involved in their transaction, 54.2% of buyers reported that their agent found the home they ultimately purchased); NAR 2023 REPORT, *supra* note 72, at 52 (reporting that 51% of buyers found their home via the internet); NAR 2022 REPORT, *supra* note 251, at 55 (indicating, again, that 51% of buyers used the internet to find their home in 2022); NAR 2021 REPORT, *supra* note 251, at 55 (reporting, also, that 51% of buyers found their home by using the internet in 2021).

258. NAR 2023 REPORT, *supra* note 72, at 54; *see also* NAR 2022 REPORT, *supra* note 251, at 57 (95% of buyers overall and 99% of buyers under age fifty-seven); NAR 2021 REPORT, *supra* note 251, at 57 (97% of buyers overall and 99% under age forty-one).

259. *See supra* notes 253–54 and accompanying text.

260. NAR 2023 REPORT, *supra* note 72, at 73 (reporting that, when asked if it was important that their agent “[h]as a mobile site to show properties,” 30% of buyers answered yes); *see also* NAR 2022 REPORT, *supra* note 251, at 76 (28% of buyers); NAR 2021 REPORT, *supra* note 251, at 76 (27% of buyers).

261. We conducted our survey via the Clickworker crowdsourcing platform. The survey questionnaire and the responses are included in the Appendix. *See* Appendix, *supra* note 48, at 9–17 tbl.A.5.

262. More precisely, 92% of respondents answered “Yes” to the question: “During the home search process, did your buyer’s agent ever email and/or text you a list of active listings that they thought you might be interested in?” *Id.*

263. Buyers were asked “Did you ever check out any of these agent-recommended listings on public portals such as Zillow, Trulia, Realtor.com or Redfin?” *Id.* Possible answers were “Yes,” “No,” and “My agent never sent me any active listings.” *Id.* Among those answering “Yes” or “No,” 92% answered “Yes.” *Id.*

264. The mean was 63%, and the mode was 90%. *Id.*

Taken together, these results paint a clear picture: Buyers regularly receive listings from their agents; buyers look at most listings that their agents send them; and most buyers view listings on public portals such as Redfin. Thus, if agents are less likely to forward listings that offer low buyer agent commissions, we would expect that such properties would receive fewer page views on Redfin.

2. Main Page View Results

We now turn to our regression analysis. We estimate the effect of offering a low buyer agent commission on Redfin page views. In doing so, we control for numerous potentially confounding variables, including geographic location within the market, asking price, potential over- or underpricing, listing agent attributes, time trends, and properties of the home itself, such as the type of property, its year of construction, its size, and the number of bedrooms and bathrooms it has.²⁶⁵ We also remove the 5% most expensive and least expensive homes in each market to prevent outliers from distorting our results.²⁶⁶

Our goal is to estimate the extent to which offering a buyer agent commission that is below the going rate (a “Low Commission”) affects page views nationwide. To do so, we compare the average page views for homes that offer going-rate commissions against the average page views for homes that offer Low Commissions, after controlling for other variables of interest. Recall that, within each market, commissions that are at or above the going rate (“Going-Rate Commissions”) are assigned to category c_1 . Commission categories c_2 , c_3 , and c_4 represent commissions that are progressively farther below the going rate, with c_4 consisting of the lowest commission rates.²⁶⁷ We find that across almost all markets, listings with Low Commissions garner fewer page views, and the effects are more pronounced for listings with the lowest commissions (c_4). All of these effects are both statistically and economically significant.

More specifically, all else being equal, a listing with a c_2 or c_3 commission receives approximately 4% fewer page views. The effect is twice as large for the lowest commissions; homes offering a c_4 commission receive more than 8% fewer page views.²⁶⁸ Figure 10 below presents our findings regarding

²⁶⁵. For more information on how we constructed these variables, see *supra* Part II. For further details, see also Github Repository, *supra* note 5 (showing these variables in our data set); *supra* Section III.B.1 (discussing client criteria for listings); and Appendix, *supra* note 48, at 14 (using the prompt, “[w]hen there was a listing of interest to me (my price range, size, etc. . .)”).

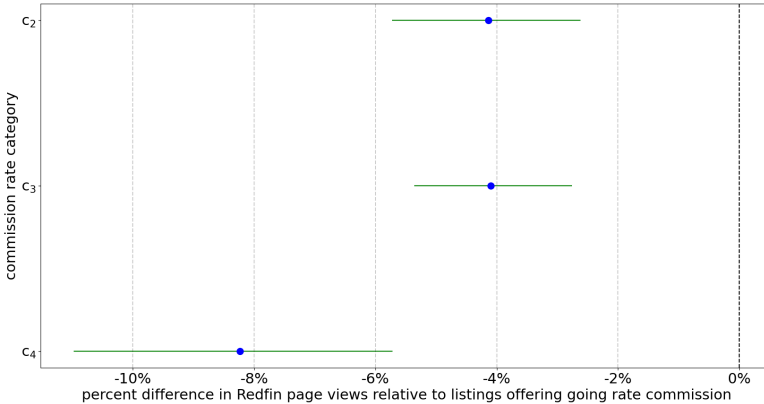
²⁶⁶. See *supra* Section II.H.

²⁶⁷. This is an oversimplification that captures the intuition. See *supra* Section II.B for more details.

²⁶⁸. Recall that even the lowest commission rates generally offer buyer agents a substantial amount of compensation. See *supra* notes 190–91 and accompanying text.

commissions on the national level. It shows that all of our results are statistically significant at the 0.05 level.²⁶⁹ Table 3 presents the same data in tabular form.²⁷⁰

Figure 10: Effect of Commission Category on Redfin Page Views at the National Level



Each blue dot represents the best-guess estimate of the percent difference in page views relative to listings offering a Going-Rate Commission. The corresponding error bar denotes the 90% credible interval for that estimate.²⁷¹ The error bar is colored green if the credible interval does not cross 0%, which signifies that the negative impact on page views is statistically significant at the 0.05 level.²⁷²

^{269.} More precisely, they are all significant at the $<.001$ level.

^{270.} We include estimates of the difference in means between these categories in the Appendix. The difference in effects between categories c_2 and c_4 and between categories c_3 and c_4 are both statistically significant at the 0.05 level. See Appendix, *supra* note 48, at 17 tbl.A.6.

^{271.} Because we are using Bayesian regression methods, the best-guess estimate is represented by the posterior mean, and the error bar is a credible interval. The frequentist statistical analog of a credible interval is a confidence interval. A 95% confidence interval is a range constructed so that, 95% of the time, it will contain the parameter of interest. See, e.g., CHERYL ANN WILLARD, STATISTICAL METHODS: AN INTRODUCTION TO BASIC STATISTICAL CONCEPTS AND ANALYSIS 172 (2d ed. 2020).

^{272.} To be clear, we are testing the statistical significance of a one-tailed test to determine whether the percent difference in page views is negative. To be statistically significant at the 0.05 level, the probability that we would observe such a negative association between page views and commission rates due to random chance alone must be less than 5%.

Table 3: Effect of Commission Category on Redfin Page Views at the National Level

Commission Category	Best-Guess Estimate for % Difference	90% Credible Interval	Probability That % Difference < 0
c ₂	-4.1%	[-5.7%, -2.6%]	> 99.9%
c ₃	-4.1%	[-5.4%, -2.8%]	> 99.9%
c ₄	-8.2%	[-11.0%, -5.7%]	> 99.9%

The last column reports the estimated probability that the true percent difference is negative—in other words, the probability that homes offering a commission in that category receive fewer page views than homes offering Going-Rate Commissions.

When interpreting these results, it is important to remember that people view real estate listings for a variety of reasons: Some are actively looking to buy. Some are considering a future purchase or sale and are educating themselves about the market. Others are curious about the current market values of their home and homes in their neighborhood. Many people simply enjoy looking at real estate listings, even in places they do not live in and have no intention of moving to.²⁷³ Accordingly, only a fraction of Redfin traffic is attributable to buyer agents. Thus, steering by buyer agents should only be expected to reduce a listing's total page views by a modest amount—which is what we observe in our results.

From a seller's perspective, some page views are more valuable than others. Sellers care most about getting their listing in front of active buyers, rather than bored hobbyists four states away. Buyer agent steering thus impacts a particularly important group of listing viewers—potential buyers who are represented by agents and who are actively looking at homes in the area—and should be expected to have larger effects than raw page view differences alone would indicate.²⁷⁴

Depending on what fraction of Redfin traffic is attributable to buyer agents, one can estimate how frequently agents engage in steering.²⁷⁵ For example, assume that 80% of traffic on Redfin is not attributable to buyer agents and the remaining 20% of traffic is. Then, in the extreme scenario in which buyer agents always steer their clients away from low-commission

273. See, e.g., Caroline Bologna, *Why Browsing Zillow Feels So Good*, HUFFPOST (Mar. 11, 2021, 11:03 AM), https://www.huffpost.com/entry/psychology-browsing-zillow_l_6048571ec5b60e0725f3b81f [<https://perma.cc/9NFN-VFJJ>] (“[P]eople love scrolling through home listings, even when they aren’t looking to buy.”).

274. We return to this question *infra* Section III.C.

275. To be clear, we refer to the fraction of Redfin traffic that is attributable to buyer agents directly and indirectly, such as when buyer agents send a property address to their clients and the clients then look up that property on Redfin, rather than the fraction of Redfin traffic attributable to buyer agents themselves browsing Redfin.

properties, one would expect low-commission properties to receive 20% fewer page views. Similarly, if buyer agents steer their clients away from low-commission properties half of the time, we would expect low-commission properties to receive 10% fewer page views.²⁷⁶

We do not know the true fraction of Redfin traffic attributable to buyer agents. However, we can test a range of values to explore how prevalent steering may be. For example, at the national level, the best-guess estimate is that offering a c_4 commission is associated with an 8.2% decrease in page views. If we assume that 25% of Redfin traffic is attributable to buyer agents, then this would suggest that buyer agents engage in steering roughly 33% of the time.²⁷⁷ Table 4 shows this calculation for each commission category assuming three different fractions of Redfin traffic attributable to buyer agents. It indicates that steering is quite common across all the scenarios considered.

Table 4: Potential Steering Rates Among Buyer Agents²⁷⁸

Commission Category	Hypothetical Percentage of Redfin Page Views Attributable to Buyer Agents		
	25%	20%	15%
c_2	$\frac{4.1\%}{25\%} = 16\%$	$\frac{4.1\%}{20\%} = 21\%$	$\frac{4.1\%}{15\%} = 27\%$
c_3	$\frac{4.1\%}{25\%} = 16\%$	$\frac{4.1\%}{20\%} = 21\%$	$\frac{4.1\%}{15\%} = 27\%$
c_4	$\frac{8.2\%}{25\%} = 33\%$	$\frac{8.2\%}{20\%} = 41\%$	$\frac{8.2\%}{15\%} = 55\%$

Moreover, the percentages presented in Table 4 likely underestimate steering rates among buyer agents. There are many ways to steer clients away from low-commission properties without affecting Redfin page views. For example, an agent could say that they were unable to schedule a showing to see a particular property; they could highlight and exaggerate the property's flaws

276. Page views would drop by the fraction of time that buyer agents steer (50%) times the fraction of traffic attributable to buyer agents (20%). $50\% * 20\% = 10\%$.

277. Comparing the reduction in page views to the fraction of page views attributable to buyer agents yields $8.2\% / 25\% = 32.8\%$. Note that these estimates have a wider plausible range than our page view estimates. For example, if the true effect of offering a c_4 commission were to reduce page views by 6%, that would suggest a steering rate of $6\% / 25\% = 24\%$ rather than 32.8%.

278. In interpreting Table 4, recall that the best-guess estimates on the national level for the percent decrease in page views caused by offering a commission rate in categories c_2 , c_3 , and c_4 are 4.1%, 4.1%, and 8.2%, respectively.

during a visit; or they could talk up another, higher-commission property.²⁷⁹ All of these actions and more could affect buyers' choices without altering Redfin page views.

Importantly, the relative impact of steering matches our expectations. Recall that commission category c_4 —commission rates below 2%—constitutes approximately 1% of commission rates across the country.²⁸⁰ One would expect that these commissions, which are both rare and the lowest offered, would experience the greatest amount of steering. Indeed, this is exactly what the data shows.

It is worth noting that c_2 commissions—which are only slightly below the going rate—still appear to trigger a substantial amount of steering. Indeed, c_2 commissions appear to trigger as much steering as c_3 commissions do. This result can potentially explain why real estate agents' commissions have held remarkably steady over the years while similar industries have seen commissions decline.²⁸¹ One might expect that as home values have risen and the internet has made it easier for buyers and sellers to find each other, some sellers might start offering slightly lower commission rates. If agents treated these commissions the same as going-rate commissions, sellers might offer these slightly lower rates with increasing frequency. Over time, the lower rate would become the new going-rate commission, and the process might repeat. But if buyer agents steer clients away from any listings that offer less than the going rate, that could discourage sellers from offering such rates, thereby preventing this gradual price erosion process.

Figure 11 presents our findings for each market in our analysis. Figures 11(a), 11(b) and 11(c) show the results for homes that offer category c_2 , c_3 , and c_4 commission rates, respectively. The Appendix presents the same information in tabular form.²⁸²

279. See, e.g., Andrea V. Brambila, *Listen: REX Releases Recordings of Agent Steering*, INMAN (Mar. 18, 2021), <https://www.inman.com/2021/03/18/listen-rex-releases-recordings-of-agent-steering> [<https://perma.cc/Q5KY-79WT>]; CBC News, *Real Estate Agents Caught Breaking the Law on Hidden Camera (Marketplace)*, YOUTUBE (Oct. 15, 2021), https://www.youtube.com/watch?v=ShBvReoJv68&t=804s&ab_channel=CBCNews [<https://perma.cc/N9TM-45WT>]; Audiotape: Inman Call 3 (n.d.), https://www.dropbox.com/scl/fi/4vfwzr8kvcjr67cdqx4ka/inman_call_3.mp3?rlk=ey=gzewccwnmt1euhp44jnrak2bx&dl=0 (on file with the *Iowa Law Review*) (agent stating she will tell her client that an available low-commission property has been sold).

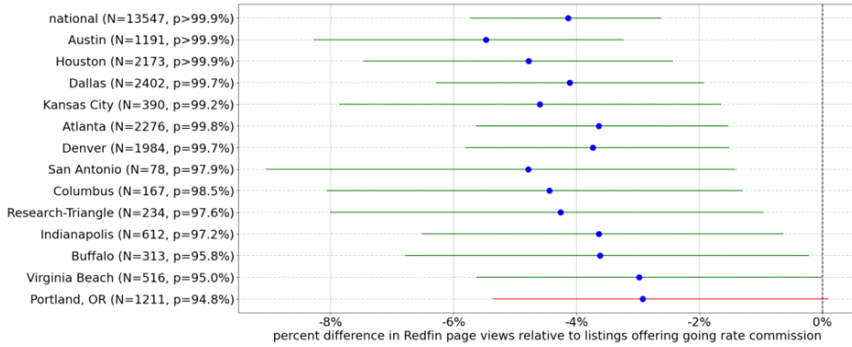
280. See *supra* Figure 3 and accompanying text.

281. Velt, *supra* note 6.

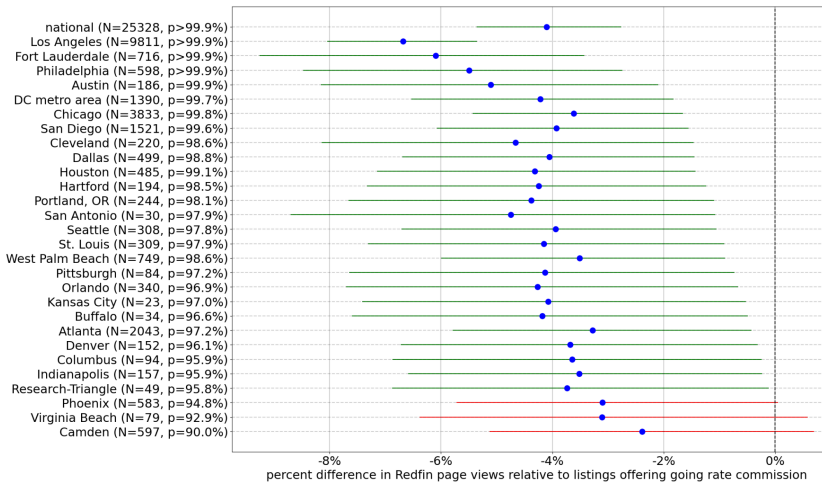
282. Appendix, *supra* note 48, at 18–20 tbl.A.7.

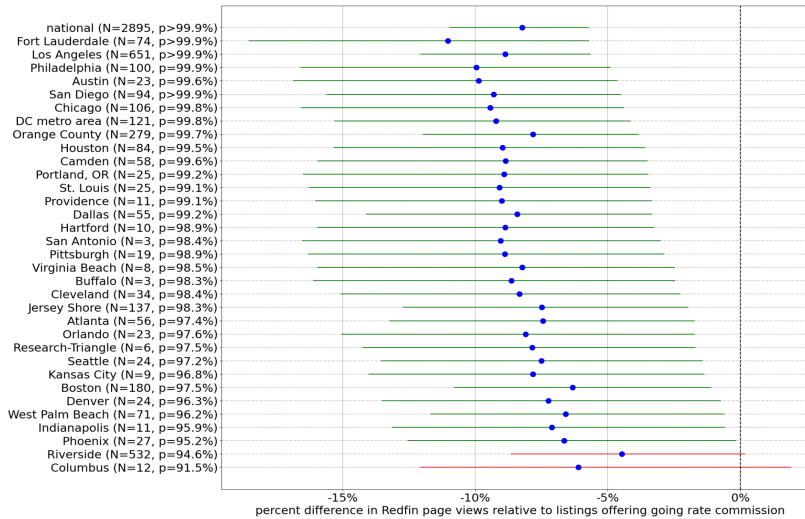
Figure 11: Effect of Commission Category on Redfin Page Views by Geographic Market

(a) Commission Rate Category c_2



(b) Commission Rate Category c_3



(c) Commission Rate Category c_4 

The blue dot represents the best-guess estimate for the percent difference in page views relative to listings offering a Going-Rate Commission. The error bar denotes the 90% credible interval for this percent difference. It is colored green if the credible interval does not cross 0%, which signifies that the negative impact on page views is statistically significant at the 0.05 level, and red otherwise. The vertical axis label reports the number of listings in each market that offer a commission in the given commission category. The number of listings on the national level is simply the sum across all markets. The vertical axis label also reports the estimated probability that the true percent difference in Redfin page views is negative. Recall that every market has the c_4 commission category while some markets have the c_2 and/or c_3 categories.

Figures 11 (a), (b), and (c) provide more information, but paint the same consistent picture: Nationwide, listings that offer Low Commissions receive fewer page views. For every market and every commission category below c_1 , the best estimate is that lower commissions are associated with fewer page views.²⁸³ Almost all of these estimates are statistically significant at the 0.05 level, and all of them are significant at the 0.10 level.²⁸⁴ The lowest commissions are once again associated with the biggest effects, but c_2 commissions still seem to trigger steering. Moreover, we observe relatively similar relationships between commission rate categories and page views in most markets across the country. As we had no particular a priori reason to expect that steering would be much more prevalent in some parts of the country than in others, the consistency of these estimates increases our confidence in our results.

²⁸³. See *supra* Figures 11 (a)–(c).

²⁸⁴. For c_2 , the estimates for 12 of 13 markets are significant at the 0.05 level; for c_3 , 25 of 28; for c_4 , 31 of 33. See *supra* Figures 11 (a)–(c).

Stepping back, we care most about the analysis on the national level. It takes into account the data from all the markets and thus offers much more statistical power to detect a statistically significant decrease in page views. Given that many markets have relatively few Low-Commission listings, one might wonder whether we would have enough data in individual markets to generate the requisite statistical power.²⁸⁵ In this sense, it is striking that so many markets yield results that are significant at the 0.05 level.

Moreover, statistical results should not be viewed in a binary way. In other words, one should not treat a result that is statistically significant at the 0.05 level as strong evidence of a relationship and a result that is not as no evidence at all. There is no statistical justification for applying such hard cutoffs uncritically. A 94% probability of a negative relationship is not statistically significant at the 0.05 level, but it still suggests a negative relationship. In such a scenario, the true relationship is almost sixteen times more likely to be negative than positive.²⁸⁶

Finally, it's important to make two points about the time frame in which this Redfin data was scraped. First, all of the data was scraped in markets in which the buyer agent commission had already started to be published on Redfin. This meant that for the first time, buyers could see the buyer agent commission being offered on each listing and thus had a way (in principle) to detect whether their agents were steering them away from Low-Commission properties. Previously, steering was harder to detect. Thus, buyer agents might have engaged in steering even more frequently in the past—and might do so again if buyer agent commissions become less visible.

Second, our data was collected during a time in which the residential real estate market strongly favored sellers, with demand outpacing supply in most markets across the country.²⁸⁷ Buyers fiercely competed for homes, and they typically had to submit multiple offers before one was accepted. Because buyer agents are paid only after deals close, these market conditions incentivized them to show their buyers many homes in order to maximize their chances of making a sale. This suggests that steering would be even more common in more neutral markets—and especially in buyer's markets—in which buyer agents can be more selective about the properties they show their clients.

^{285.} Statistical power refers to a test's ability to reject a null hypothesis that is in fact false. WILLARD, *supra* note 271, at 127.

^{286.} In such a scenario in Bayesian statistics, given that there is a relationship, the probability is 94% that it is negative and 6% that it is positive. $94\% / 6\% \approx 15.67$.

^{287.} See, e.g., Dana Anderson, *The Ultimate Seller's Market: 10 Housing Records Set in 2021*, REDFIN NEWS (Jan. 25, 2022), <https://www.redfin.com/news/housing-market-records-2021> [https://perma.cc/CP96-466Y]; Jeanette Settembre, *Record Number of Homes Sell Above List Price in U.S. Amid Strong Seller's Market*, FOX BUS. (Mar. 19, 2021, 1:44 PM), <https://www.foxbusiness.com/real-estate/record-number-homes-sell-above-list-price> [https://perma.cc/XG2D-JCTY]; Diana Olick, *Homes Are Selling Faster Than Ever Before, and the Spring Market Is Just Around the Corner*, CNBC (Feb. 9, 2022, 12:41 PM), <https://www.cnbc.com/2022/02/09/homes-are-selling-faster-than-ever-before.html> [https://perma.cc/A32S-J7CU].

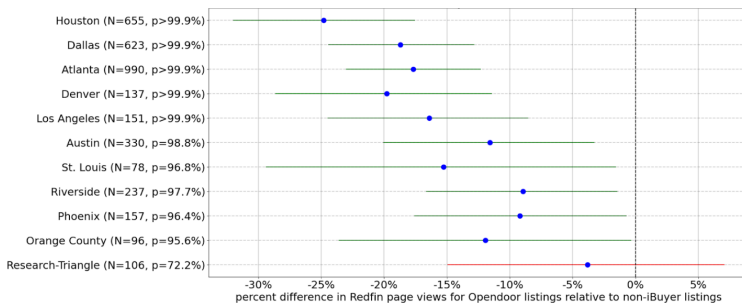
3. iBuyer Page View Results

We now consider whether iBuyer listings receive more or fewer page views than other listings after controlling for all other variables in the model (including the commission category).²⁸⁸ Recall that iBuyers are entrants seeking to disrupt the established industry structure. One might therefore expect incumbent buyer agents to be hostile to them.²⁸⁹ If buyer agents steer clients based on the agents' interests, they might steer clients away from iBuyers' listings, thereby reducing page views.

Figures 12(a), 12(b), and 12(c) below show the percent difference in page views for Opendoor, Zillow, and Offerpad, respectively. The Appendix presents the same information in tabular form.²⁹⁰

Figure 12: Percent Difference in Redfin Page Views for iBuyer-Owned Listings Relative to Non-iBuyer Listings

(a) Opendoor

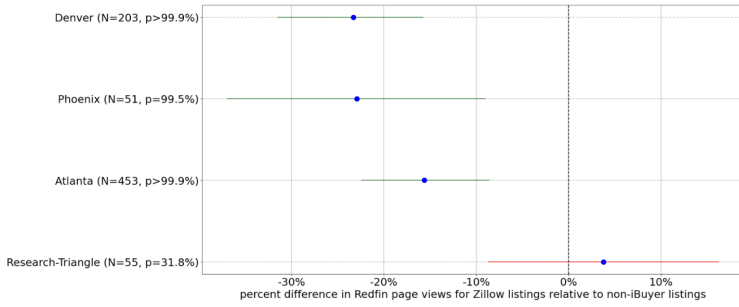


²⁸⁸ Recall that iBuyers make home sellers immediate cash offers, with a plan of reselling to conventional buyers. See *supra* Section I.A.

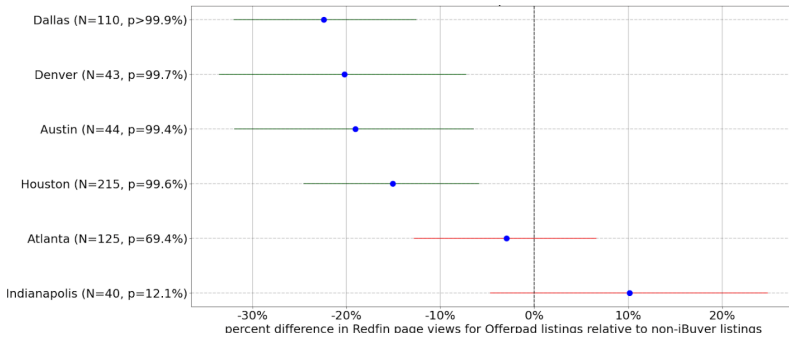
²⁸⁹ See, e.g., Jordan M. Barry & Paul L. Caron, *Tax Regulation, Transportation Innovation, and the Sharing Economy*, 82 U. CHI. L. REV. ONLINE 69, 74–75 (2015); Jordan M. Barry, *Taxation and Innovation: The Sharing Economy as a Case Study*, in THE CAMBRIDGE HANDBOOK OF THE LAW OF THE SHARING ECONOMY 381, 381 (Nestor M. Davidson, Michèle Finck & John J. Infranca eds., 2018).

²⁹⁰ See Appendix, *supra* note 48, at 21–22 tbl.A.8.

(b) Zillow



(c) Offerpad



The blue dot represents the best-guess estimate for this percent difference. The error bar denotes the 90% credible interval for this percent difference. It is colored green if the credible interval does not cross 0%, which signifies that the longer time to sell is statistically significant at the 0.05 level, and red otherwise. The vertical axis label reports the number of listings in each market that offer a commission in the given commission category. The graphs are limited to markets in which at least 40 properties in the dataset were listed by the given iBuyer. The vertical axis label also reports the estimated probability that the true percent difference in page views is negative.

Figure 12 shows that in most markets in which iBuyers operate, their listings tend to receive significantly fewer page views than traditional listings. On average, this effect is larger than the effect of Low Commissions, but there is also more variability across the estimates.²⁹¹

These results are consistent with agents steering clients based on the agents' interests. However, there are also other ways to interpret these results. Homeowners may be more likely to sell to iBuyers if they believe that their homes will be difficult to sell; hard-to-sell homes might generate fewer page views on Redfin. Alternatively, iBuyers list significant numbers of properties

291. The average effect across markets is -14.4% for Opendoor, -14.5% for Zillow, and -11.6% for Offerpad, with a low of -24.8% (Opendoor Houston) and a high of +10.1% (Offerpad Indianapolis). Github Repository, *supra* note 5.

in the areas in which they operate. They might have invested substantial resources to drive prospective buyers in these markets to their own web portals.²⁹² Thus, lower numbers of Redfin page views may be due to prospective buyers viewing iBuyer homes on non-Redfin portals, rather than buyers not viewing the properties at all.²⁹³

4. Outside Evidence on the Prevalence of Steering

In evaluating the results of our analysis, it is worth considering what outside evidence, separate from our analysis, suggests about the frequency of buyer agent steering. If that evidence also indicates that steering is common, that would increase our confidence in our conclusions. As noted below, we identify five other sources of information on the prevalence of buyer agent steering: prior scholarship, real estate agent training materials regarding steering, buyer agent commissions offered by Opendoor over time, a Canadian Broadcasting Corporation (“CBC”) investigation, and calls that REX recorded in which buyer agents announced their intention to steer. These bodies of evidence all suggest that steering is commonplace.

i. Previous Academic Work

A lack of available data has generally stymied researchers’ ability to study buyer agent steering. To our knowledge, Barwick et al.’s 2015 article, discussed earlier, is the only prior statistical study that investigates buyer agent steering.²⁹⁴

292. This could be as simple as engaging in search engine optimization so that people searching for the addresses of the properties iBuyers are listing see the iBuyer portal at the top of their search results. *Cf.* 7816 *Big Wind Way Austin TX*, *supra* note 180 and accompanying text.

293. Similarly, it is also possible that iBuyers are engaging in extensive marketing campaigns to drive buyers to their listings, increasing page views overall. This effect could be partially or fully offset by buyer agent steering and the other effects discussed in text or other effects not considered here.

294. Barwick et al., *supra* note 36, at 197 (“There is surprisingly little information on commissions at the property level. [There are only two papers] that we are aware of They investigate variation in buying commissions across real estate markets but do not examine the consequences of buying commissions on sales outcomes.”).

After this Article was drafted, Bright MLS’s Chief Economist used Bright MLS’s data to produce a document that purports to analyze the effects of buyer agent commissions. Sturtevant, *supra* note 36. The document’s basic approach is to run a regression using buyer agent commissions (among other variables) to predict how long homes take to sell. *Id.* It concludes that “controlling for other factors, properties with higher offers of buyer agent compensation take longer to sell compared to similar properties with lower offers of compensation.” *Id.* at 6.

That document only discusses this Article in one paragraph and only discusses our page views analysis; it does not engage with our analysis of time to sale or probability of sale, nor does it engage with any of the other evidence presented in this Article. It asserts that our page view results should be attributed to variables we do not include in our analysis, such as “attractiveness of the home, the photos, and the descriptive information” in the listing—all variables that Bright MLS did not include in its own analysis. *Id.* at 3.

Unfortunately, Bright MLS did not make its data available to outside analysts. But it appears that the reason we reach different conclusions is that their regression posits a direct linear relationship between buyer agent commissions and time to sell. However, because only a

Their analysis provides a bird's eye view of buyer agent conduct across the Boston market over a fourteen-year period.²⁹⁵ They conclude that buyer agents steer their clients away from low-commission properties.²⁹⁶ They also find stronger effects “for low commission listings in neighborhoods with a larger fraction of high commission listings, [for] listings by [new] entrants, and [for] listings by offices that used lower commission rate policies in the past,” all of which further suggest buyer agent steering.²⁹⁷

The consonance between our results and theirs bolsters our findings.

ii. Real Estate Agent Training Materials

Although NAR and other industry figures have denied that buyer agents steer their clients away from low-commission properties, agent training materials tell a different story. Some brokerages teach their agents to warn sellers about buyer agent steering if sellers ask about cutting buyer agent commissions. Even materials from national brokerages can be quite brazen. For example, consider the following script from Coldwell Banker:

Another option you have is to pay the [buyer agent] 2.5% instead of 3%. However, I don't recommend it.

small percentage of listings offer below-market commissions—perhaps because sellers want to avoid commission-based steering by buyer agents—low-commission listings have little effect on the estimated coefficients in Bright MLS's regression. Consider Washington, D.C., the largest metro area that appears in both our data and Bright MLS's. Over 80% of listings there offer buyer agents a 2.5% commission. Among the remaining listings, approximately one-third offered commissions that were below 2.5%; the remainder were above 2.5%. Github Repository, *supra* note 5. Thus, the going-rate and above-going-rate listings dominate the regression. This dynamic is even more stark in the three other metro areas that appear in both our data and Bright MLS's: In Camden, there are approximately 4.5 listings offering above-going-rate commissions for every listing offering a below-going-rate commission. In Philadelphia, that ratio is over 7:1; in the Jersey Shore, it is over 30:1. *Id.* Our approach, which does not assume a straight-line relationship between buyer agent commissions and time to sale, provides a clearer picture of the effects of offering a below-market buyer agent commission.

Further, the Bright MLS document presents no explanation why offering a higher buyer agent commission would cause a home to sell more slowly. It strains credulity to think that buyer agents would disfavor listings that offer them greater compensation. Sellers may offer higher commissions when they are selling homes that are less desirable and thus harder to sell; if so, then that undermines the Bright MLS conclusion but strengthens ours. *See discussion infra* note 340.

Finally, if the Bright MLS document's finding is correct, and offering a higher buyer agent commission makes it harder to sell a home, then listing agents have fiduciary obligations to advise their clients to offer the smallest allowable buyer agent commissions. That is directly contrary to the advice that listing agents actually give. *See infra* Section III.B.4.ii. This suggests that listing agents either disagree with the Bright MLS document's conclusion, or that they are violating their fiduciary obligations on a massive scale.

295. Barwick et al., *supra* note 36, at 192.

296. *Id.* at 219.

297. *Id.* at 193.

With all the homes that you are competing with right now, most of those sellers are offering the [buyer agent] only 2.5% and by the way, most of those homes are not selling!

Can you see how paying an extra half of one percent can be an incentive to get more interest in your home and generate more potential showings?

If you were [a buyer agent] and had to show five homes this weekend, which of the five do you think you would focus on? Would you want to show the homes that paid you *only* 2.5% or the homes that would *fairly* pay you 3%? (*The seller says obviously the homes that paid 3%.*)

Of course you would. Don't you think most agents would feel the same way?²⁹⁸

Similarly, Keller Williams features steering prominently in several model scripts in their Keller Williams University Scripts Catalog. For instance, consider:

AGENT: . . . When you reduce the [buyer agent] commission, you reduce the incentive for that agent to bring a buyer to your house. If an agent has ten different houses, nine of which come with a 3 percent commission, one of which comes with 2.5 percent commission, which houses do you think they're going to show?

SELLER: The ones with the larger commission.

AGENT: Absolutely. You're putting yourself at a disadvantage competitively when you reduce your commission, wouldn't you agree?

SELLER: I guess that's true.²⁹⁹

Or to take another example from that same script collection:

AGENT: . . . If you have a buyer's agent who has time to show these people eight houses and they're coming in from out of state, you can be sure they're buying a house that weekend. If she sells a few houses a year, don't you think she's going to look at what she's going to get paid on each of those properties? She has time to show eight and she has ten to choose from. Two of them are offering her 3 percent. The

298. COLDWELL BANKER RESIDENTIAL BROKERAGE, WORDS THAT WORK, BUSINESS LEADERSHIP DEVELOPMENT SERIES, PART ONE 36, <https://blog.homesnap.com/wp-content/uploads/2019/07/CB-Scripts-Words-that-Work-pdf.pdf> [<https://perma.cc/JY6P-4FCT>] (list numbering omitted). Note that within the residential real estate industry, the agent representing the home seller is called the listing agent, and the agent representing the home buyer is called the selling agent. See *supra* note 3.

299. TAMMY KROOP, KELLER WILLIAMS, WORKING WITH SELLERS, KWU SCRIPTS CATALOG, VOLUME 2, at 150 (2004), <https://img1.wsimg.com/blobby/go/11a77c6d-eb91-457b-a7c8-7b3d30e0af37/downloads/KWU%20-%20Scripts-sellers%20-%20manual%20v3.2.pdf?ver=1615240738234> [<https://perma.cc/5NEG-7RMM>].

other eight are offering her 3.5 percent. Which ones do you think she's going to show?³⁰⁰

Brokerages are far from alone in this space. Real estate coaches offer similar advice on their websites.³⁰¹ For those who prefer video, YouTube has many instructional examples; these videos have garnered hundreds of thousands of views.³⁰² Some are quite colorful. One high-profile agent describes low buyer agent commissions as “the kiss of death” and dismissively crumples up a low-commission listing, stating, “That’s what agents do.”³⁰³

In interpreting these data points, it is worth keeping in mind that listing agents have an incentive to suggest that steering is a major problem even if it is not.³⁰⁴ Still, the fact that so many agents and brokerages assert that steering is real increases our confidence that it is.

300. *Id.* at 156; *see also id.* at 146 (“They will have to reduce the commission to agents with the buyers, which, will reduce the number of willing and qualified buyers that will see your home.”); *id.* at 148 (“It’s about being reputable in the industry so [buyer] agents will show your home. Okay? See here on these other listings where they’re asking just 2.5 percent for the [buyer] agent? Notice the homes that are really selling almost always have 3 percent to the [buyer] agent.”).

301. *See, e.g.*, DEBBIE DE GROTE, EXCELLEUM COACHING & CONSULTING, REAL ESTATE SCRIPT BOOK 27, 40 (2013), <https://u.realgeeks.media/itsclosingtime/Script-Book.pdf> [<https://perma.cc/QVL4-39BJ>]; MIKE FERRY, THE COMMISSION CUTTING REPORT 6–8, 15, <https://assets-prod.mikeferry.com/main/files/The%20Commission%20Cutting%20Report.pdf> [<https://perma.cc/E9A6-72EQ>]; Debbie De Grote, *Perfecting Your Commission Objection Handlers*, INST. FOR LUXURY HOME MKTG. (Mar. 24, 2021), <http://blog.luxuryhomemarketing.com/perfecting-your-commission-objection-handlers> [<https://perma.cc/2D35-YKRD>]; Brian Icenhower, *The Listing Consultation: Commission Objection Handling Script for Real Estate Agents*, ICENHOWER COACHING & CONSULTING, <https://therealestatetrainer.com/listing-consultation-commission-objection-handling-script> [<https://perma.cc/G9CC-7AJT>]; Daniel Dobbs, 21 *Common Objections & How to Handle Them*, DANIELDOBBS.ORG, <https://danieldobbs.org/21-common-objections-how-to-handle-them-for-reagents> [<https://perma.cc/8BDW-WR5S>]; Teke Wiggan & Amber Taufen, *I Don’t Want to Commit’: How to Handle 27 Common Objections*, INMAN (Sept. 29, 2019), <https://www.inman.com/2019/09/29/i-dont-want-to-commit-how-to-handle-27-common-objections> [<https://perma.cc/R259-3PMU>]; *see also* Fried, *supra* note 134 (collecting examples).

302. *See, e.g.*, Tom Ferry, *10 Ways to Improve Your Listing Presentation*, YOUTUBE (Mar. 24, 2015), <https://www.youtube.com/watch?v=1Wvj2w3Me1E> [<https://perma.cc/MV5S-UYUM>] (76,000 views as of Apr. 3, 2025); Real Sales Talk, *Sales Training 101-TOUGH Listing Presentation; Pricing & Commission Objections*, YOUTUBE (Sept. 15, 2016), https://www.youtube.com/watch?v=dqqqiD_hXZY [<https://perma.cc/85N2-VSUH>] (49,800 views as of Apr. 3, 2025); Neil Schwartz, *The Perfect Real Estate Listing Presentation pt. 3*, YOUTUBE (Aug. 15, 2009), https://www.youtube.com/watch?v=iwdfNw_BeHE [<https://perma.cc/M5QA-AVK4>] (41,000 views as of Apr. 3, 2025); Joe Villascusa, *Live Listing Presentation by Venny Saucedo*, YOUTUBE (Mar. 11, 2014), <https://www.youtube.com/watch?v=R9DdWxKRuCI> [<https://perma.cc/R3E3-9A34>] (110,000 views as of Apr. 3, 2025); *see also* Fried, *supra* note 134 (collecting examples).

303. Rob Hahn, *Update on NBER’s REALTOR Commission Study*, NOTORIOUSROB (Sept. 28, 2015), <https://notoriousrob.com/2015/09/update-on-nbers-realtor-commission-study> [<https://perma.cc/3YLZ-L2SF>] (discussing an embedded Randy Ora video). In the same video, Ora states that he’s been around the water cooler enough to know that some agents will not show the 2.5% listings, everyone will show the 3%, and everyone will go out of their way to show the 3.5%. *Id.*

304. If buyer and listing agent commissions are linked, keeping the buyer agent commission high keeps the seller’s compensation high. More generally, listing agents often represent buyers

iii. Opendoor

The experience of iBuyer Opendoor also suggests that steering is commonplace. As an iBuyer, Opendoor seeks to act as an intermediary, purchasing homes and then quickly reselling them for a profit.³⁰⁵ Opendoor's investor presentations reveal that its single largest expense is commissions paid to buyer agents.³⁰⁶ Accordingly, it has strong incentives to offer low buyer agent commissions. Indeed, the only apparent reason why Opendoor would offer *any* buyer agent commission is if it helped Opendoor sell homes—for example, if buyer agents steer their clients away from low-commission properties.

Mike DelPrete, scholar-in-residence at the University of Colorado Boulder Leeds School of Business, documented how the commission rates that Opendoor offers buyer agents have changed over time. He observed that, after initially offering going-rate buyer agent commissions, Opendoor began experimenting with lower buyer agent commission rates in an attempt to improve its unit economics. Based on the data, DelPrete inferred that “Opendoor appears to be testing how low buyer agent commissions can go before it adversely affects time on market (agents may be less likely to show homes that are offering low buyer agent commissions).”³⁰⁷

For example, in Atlanta, where the going-rate commission is 3%, Opendoor experimented with a range of rates. At one point, it offered 1.5% commissions, but ultimately abandoned them in favor of higher commissions, presumably because listings offering 1.5% commissions were not selling in a timely manner.³⁰⁸

iv. CBC News Investigation

Canada's residential real estate market has many similarities to the U.S. market. In particular, MLSs play an important role; sellers compensate buyer

as well, so they have a general interest in keeping buyer agent commissions high. Moreover, because agents work together so frequently, it is important that they maintain good relations with other agents. Offering high commissions on their listings helps with that. *See, e.g.*, Kroop, *supra* note 299, at 148; Barry et al., *supra* note 60, at 1115–18; Hatfield et al., *supra* note 6, at 2.

305. *See, e.g.*, Barbara Marquand & Taylor Getler, *What Is an iBuyer?*, NERDWALLET (July 20, 2023), <https://www.nerdwallet.com/article/mortgages/understanding-ibuyers> [<https://perma.cc/GH9H-C3YE>].

306. Mike DelPrete, *The iBuyer War on Real Estate Commissions*, MIKE DELPRETE (Oct. 19, 2020), <https://www.mikedp.com/articles/2020/10/18/the-ibuyer-war-on-real-estate-commissions> [<https://perma.cc/P4WH-W42S>] (“Since the beginning, an iBuyer’s biggest expense has been agent commissions—specifically the buyer agent fee of around 3 percent when a home is resold.”).

307. *Id.* DelPrete gathered data on listings and commissions from the MLS, not from Opendoor directly. Thus, we cannot say for sure what Opendoor’s experiences were and how it made its decisions. That said, the available data seem to tell a coherent story.

308. *Id.* As of DelPrete’s last report, Opendoor offered a buyer agent commission of 2% on roughly half of its Atlanta listings and 2.25% on the other half. DelPrete, *supra* note 227.

agents, and agents can view the MLS, including the commission rates that sellers offer, but their clients generally cannot.³⁰⁹

In 2021, the CBC News Marketplace team investigated whether buyer agents would steer their clients away from a low-commission listing. They first posed as buyers and asked three local agents to show them houses that fit particular criteria. The Marketplace journalists were in contact with the owner of a house that fit those criteria and who was only offering a 1% buyer agent commission.³¹⁰ This commission would have netted the buyer agent over \$14,000, but was well below the 2.5% going-rate commission in that neighborhood.³¹¹

The first buyer agent told their client that the home was overpriced by \$50,000 and said that most agents would not show it because of its low commission, but they agreed to take the client to see it.³¹² The second claimed she had called the owner of the low-commission home but had been unable to set up a showing; she suggested that the issue may have been scheduling around the current tenants.³¹³ The homeowner, who had no tenants, stated that she never received any such call.³¹⁴ The third agent said the home was overpriced by \$200,000 and reported that, in her conversation with the homeowner, the homeowner had made it clear that they would not budge on price.³¹⁵ However, the homeowner told a very different story. She claimed that the agent asked about the commission for the property and, upon hearing that it was only 1%, said she would keep her clients to herself.³¹⁶ The Marketplace investigators pushed the third agent to take them to see the low-commission home. The agent did so—but they spent half the time talking about a listing in a different neighborhood that they thought the client should see.

Next, Marketplace investigators called twenty-five agents and posed as homeowners considering listing their home. When the investigators broached the topic of what commission to offer buyer agents, 88% of listing agents warned that buyer agents would steer clients away from their home if the commission was low.³¹⁷

Finally, Marketplace investigators posed as a seller and listed a home on the MLS via a discount broker, offering a 1% buyer agent commission. After

309. In addition, agents frequently represent both sellers and buyers as clients, there is widespread convergence on commission rates, and commission rates are higher than in many other developed countries. In the United States, MLSs are increasingly making buyer agent commission rates visible in their public data feeds in the wake of NAR's proposed settlement with the DOJ. See *supra* notes 159–60 and accompanying text.

310. CBC News, *supra* note 279.

311. *Id.*

312. *Id.*

313. *Id.*

314. *Id.*

315. *Id.*

316. *Id.*

317. *Id.*

a week on the market, they received three calls from agents interested in scheduling a showing.³¹⁸ However, “[a] close comparable down the street [that offered a higher commission] had twenty unique showings in less than a week and sold over asking just a day before [Marketplace’s] listing went up.”³¹⁹

v. *REX Recordings*

REX was a brokerage with a somewhat different business model than most other brokerages.³²⁰ Much of REX’s strategy was built around reaching potential home buyers who were not represented by agents. A salaried REX employee would then guide such buyers through the transaction at no cost to the buyer. REX generally did not post its listings on local MLSs, which meant that its listings did not have to specify a preset buyer agent commission. Over time, many buyer agents called REX to inquire about particular listings and schedule showings. Many of these buyer agents were unfamiliar with REX’s business model and inquired about REX’s commission structure. REX recorded most of these calls.³²¹

REX alleges that it has over seven-hundred recorded phone calls in which buyer agents refused to show REX properties due to dissatisfaction with how REX handles buyer agent commissions.³²² This included agents who cited brokerage rules forbidding them from showing any property that paid them less than a specified minimum commission.³²³

One might question how often buyer agents would openly refuse to show REX listings for commission-based reasons while on a phone call *with REX* that began: “Thank you for calling REX. This call may be recorded.”³²⁴ Most of these call recordings have not yet been publicly released, but a few have been given to journalists and are publicly available.³²⁵ These released calls support REX’s account. For example, in one call the conversation includes:

AGENT: I’m not interested in showing it, I’m sorry.

REX: Okay, just because of the compensation part?

318. *Id.*

319. *Id.*

320. We refer to REX as in REX - Real Estate Exchange, a startup founded in 2014. To be clear, we are not referring to Rex, founded by Peter Rex in 2016.

321. Brambila, *supra* note 29.

322. This includes approximately one hundred calls in which buyer agents simply hung up after learning about REX’s commission structure. *Id.* REX generally did not have its sellers commit to paying buyer agent commissions. *Id.* Instead, buyers and their agents were to negotiate buyer agent compensation between themselves. *Id.*

323. *Id.* For example, a Keller Williams agent said they would bring in clients for a 2.5% commission, but that their brokerage would not let them go below that. *Id.*

324. See Houston Chronicle Call 1, *supra* note 229.

325. See Brambila, *supra* note 29; Alexandra S. Levine, *Could AOC Be the Next Star on the Tech Scene?*, POLITICO, (Nov. 23, 2020, 10:00 AM), <https://www.politico.com/newsletters/morning-tech/2020/11/23/could-aoc-be-the-next-star-on-the-tech-scene-791837> (on file with the *Iowa Law Review*); Schuetz, *supra* note 229.

AGENT: Yeah. . . . Yeah, I'm not going to even show it to them, to be honest with you. . . . There are a lot of properties out here . . . I'll just move on to the next one.³²⁶

In another:

AGENT: So what do you pay for commission? What do I get if I sell the house?

REX: [Representative explains.]

AGENT: Are you kidding me? Forget it. Bye. <hangs up>³²⁷

In a third:

AGENT: Ok, so do you cooperate with other agents and pay compensation?

REX: [Representative explains]

AGENT: I'll tell them that the property is sold. Thank you.

REX: You're going to tell them that the— <Buyer Agent hangs up>³²⁸

The other recordings that have been released feature similar exchanges.³²⁹ In one, the agent goes a step further, threatening retaliation: "Don't worry about

326. Houston Chronicle Call 1, *supra* note 229; *see also* Schuetz, *supra* note 229.

327. *See* Brambila, *supra* note 278; *see also* Audiotape: Inman Call 2 (n.d.), <https://www.dropbox.com/scl/fo/iftz1cmb7f3r431igtioh/h?rlkey=bz31k22pagf4kygfabeew34vf&dl=o> (on file with the *Iowa Law Review*).

328. *See* Brambila, *supra* note 278; *see also* Inman Call 3, *supra* note 279.

329. *See* Schuetz, *supra* note 229. One call includes:

AGENT: So if I was to bring you a client to purchase this property, do you guys pay me the 3% commission, or how does that work?

REX: [Representative explains.]

AGENT: . . . Yeah that's not going to work. Okay, I thank you, we can just stop right there because I know that . . . that's just not how I operate. I really do appreciate your time, though, have a good day sir. . . . Thank you, bye-bye. <Hangs up>.

Audiotape: Houston Chronicle Call 2, at 01:57 (n.d.), https://www.dropbox.com/scl/fi/j2vva6xn6qbyutnuvq4hs/houston_chronicle_call_2.mp3?rlkey=j4dof19mhhke7nc1kxns086pr&dl=o (on file with the *Iowa Law Review*). Another includes:

REX: [T]his [property] is vacant, so you can show it at any time. Did you know when you would like to see it?

AGENT: I want to know how the commission works.

REX: [Representative explains.]

AGENT: Okay, well, I'm not doing that. Thank you. <Hangs up>.

Audiotape: Houston Chronicle Call 3, at 00:53 (n.d.), https://www.dropbox.com/scl/fi/51ge258rt291776e3ssao/houston_chronicle_call_3.mp3?rlkey=gie161rottyaeatl3qemcelx6&dl=o (on file with the *Iowa Law Review*).

it; I won't bother to show it. Who's your local agent, though? Because I'll make sure to tell people not to work with them."³³⁰

REX claims that it received calls like these in almost all of the markets in which it operated.³³¹

Moreover, these recordings may only capture a small slice of potential steering behavior. They would not capture any steering by agents who learned how REX handled commissions without calling REX; by agents who steered clients without stating their intent to do so on the phone; or by agents who steered clients in more subtle ways, such as by unfairly denigrating REX's properties.³³²

5. Tests of Our Analysis and Potential Alternative Explanations

For several of our control variables, there is a natural expectation for how they should affect page views. We examine these variables' estimated coefficients to verify that they align with our intuition. If so, this would increase our confidence in our analysis. Conversely, if these estimated coefficients go against expectations, we would be less confident in our results.

First, all else being equal, one would expect that attractively priced listings—those with asking prices below their market values—would tend to receive more page views, while overpriced listings would tend to receive fewer.³³³ Sure enough, this is precisely what we observe in nearly all markets in the analysis.³³⁴ Figure 13 below shows that this trend holds for Los Angeles, which is a typical market in this regard.³³⁵

330. Brambila, *supra* note 279; *see also* Inman Call 1 (n.d.), https://www.dropbox.com/scl/fi/c7tr7jxstee3a5i9thtlv/inman_call_1.mp3?rlkey=grafbasgppz5xfbeqzqbbz5&e=2&dcl=0 (on file with the *Iowa Law Review*).

331. REX alleges that they have recorded calls from the Atlanta; Austin; Bay Area; Boston; Chicago; DC metro area; Denver; Houston; Jacksonville; Los Angeles; Las Vegas; Miami; New York metro area; Portland, OR; Orlando; Philadelphia; Phoenix; Research Triangle, NC; Sacramento; San Antonio; San Diego; and Tampa markets. *See* Lillian Dickerson, *Recordings of Houston Agents by Rival Brokerage Reveal Commission Steering*, INMAN (Jan. 12, 2021), <https://www.inman.com/2021/01/12/recordings-of-houston-agents-by-rival-brokerage-reveal-commission-steering> (on file with the *Iowa Law Review*).

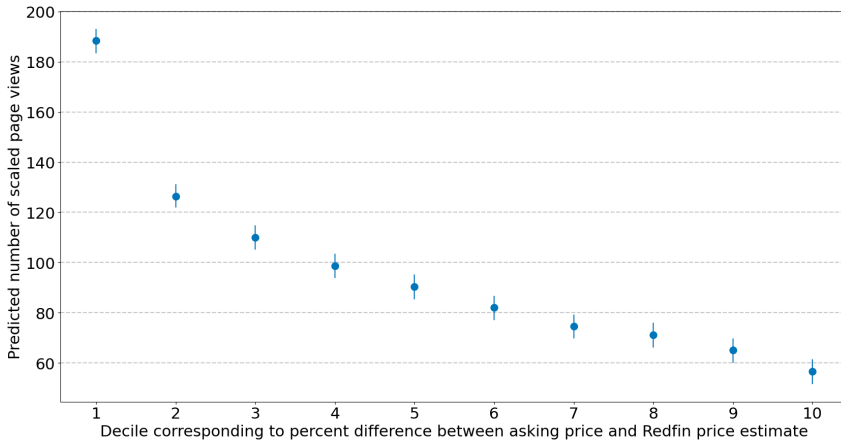
332. Declaration of Will Fried at 10, 12, *Moehrl v. Nat'l Ass'n of Realtors*, 492 F. Supp. 3d 768 (N.D. Ill. 2020) (No. 19-cv-01610).

333. This seems likely both because buyers will want to find the best home for the least money and because higher-priced homes may be above the price cutoffs that some buyers use in their Redfin searches and thus will appear in fewer search results. We use the Redfin price estimate as a measure of value because the Redfin price estimate is contemporaneous with the property being listed and closely tracks sale prices on average. *See supra* notes 214–18 and accompanying text.

334. Github Repository, *supra* note 5.

335. *Id.*

Figure 13: Relationship Between the Extent to Which a Property Is Overpriced and the Predicted Number of Scaled Page Views in Los Angeles



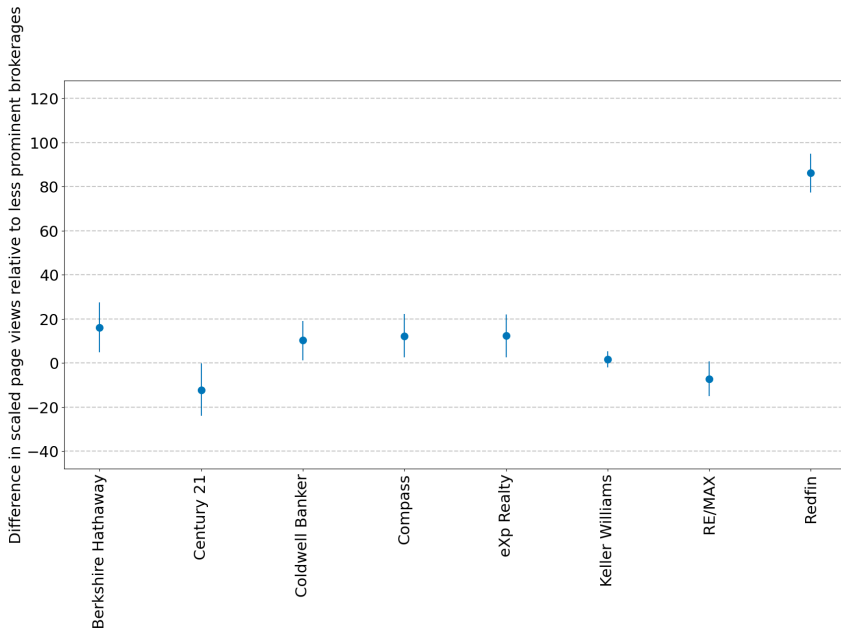
The horizontal axis displays the decile corresponding to the percent difference between the asking price and the Redfin price estimate (e.g., the first decile consists of the 10% most underpriced listings; the tenth decile consists of the 10% most overpriced listings, etc.). The vertical axis displays the predicted number of scaled page views associated with each decile. The dot represents the best-guess estimate, while the error bars denote the 95% credible interval.

Second, recall that when a Redfin agent is the listing agent, Redfin promotes that listing to the top of its search results during that listing's first week on the market.³³⁶ Accordingly, all else being equal, one would expect that homes listed by Redfin would tend to receive more page views than those listed by other brokerages. This is indeed the case; we see this effect in almost every market in our sample.³³⁷ Figure 14 shows the results for Austin.

336. See *supra* note 183 and accompanying text.

337. To be more specific, in all fourteen of the markets in our dataset with at least one hundred Redfin listings, the Redfin coefficient point estimate is higher than the coefficient for any other brokerage. See Github Repository, *supra* note 5.

Figure 14: Average Difference in Scaled Page Views Between Listings Represented by Large National Brokerages and Other Listings in Austin



The dot represents the best-guess estimate, while the error bars denote the 95% credible interval. The graph shows that listings represented by Redfin tend to receive significantly more page views than listings represented by any other major brokerage.

Third, we consider the page views received by the listings that are geographically nearest to each property. One would expect to see a positive relationship between a home's page views and the page views of nearby homes. Indeed, we observe this relationship in every geographic market in our analysis.³³⁸ The fact that all three of our checks produce the expected results lends additional credence to our analysis.³³⁹

It is also important to consider whether there are alternative explanations that might explain our results—that lower commissions predict fewer page views—other than buyer agent steering. For this to be the case, there must be

³³⁸. Our analysis considers the page views of the nearest 5, 10, 30, 100 and 200 listings. See *supra* Section II.D. These measures exhibit significant multicollinearity. We thus evaluate the sum of these five coefficients as a measure of the combined effect of the page views of geographically close homes. This sum was positive in every geographic market. See Github Repository, *supra* note 5.

³³⁹. As a robustness check, we also predict page views via an ordinary least squares regression with a control variable for each market. The point estimates for c_2 , c_3 , and c_4 are -3.64%, -4.62%, and -7.61%, and all are significant at the <.00001 level. See Github Repository, *supra* note 5. These estimates closely track the results of our Bayesian analysis. See *supra* Table 3.

a factor that we do not account for and that is associated with both lower page views and lower buyer agent commissions.³⁴⁰

For example, suppose that single-family homes receive the most page views and that they are the least likely to offer Low Commissions. In that case, all else being equal, Low-Commission listings would tend to garner fewer page views because they are less likely to be single-family homes. Fortunately, this is not a concern for our analysis, because we include a control variable for whether homes are single-family homes, townhouses, condominiums, and so forth. That control variable is designed to capture any effects attributable to the listing being a single-family home. Our analysis would only find a relationship between Low Commissions and page views if they were linked for some other reason—such as if buyer agents steer their clients away from Low-Commission listings.

One possible concern is that sellers who offer Low Commissions may tend to hire worse agents than sellers who offer Going-Rate Commissions.³⁴¹ If this is the case, then poor listing agent quality could explain why Low-Commission listings garner fewer page views, rather than steering by buyer agents.

We address this concern in a few ways. First, within our regression models, we control for which national real estate brokerage firm the listing agent is affiliated with (if any).³⁴² These firms are large operations with training programs and brand names. Thus, being affiliated with some of these firms may indicate above-average agent quality. Second, we control for the market share of the listing agent's brokerage. Brokerages that sell more homes will, by definition, have a higher market share. Selling more homes likely correlates with being more effective at helping sellers sell their homes. Thus, the agent's affiliation with a high- or low-market share brokerage provides information about the agent's quality level. Together, these controls help ameliorate our concerns about not being able to measure listing agent quality directly.

340. The data do not suggest that homes offering lower commissions are of lower quality than other homes. One might postulate that older homes are in worse shape than newer ones (i.e., of lower quality), or at least are harder for buyers to evaluate and thus harder for sellers to sell. However, there is essentially no correlation between homes' age and their commission category (Spearman's rho 0.005). Github Repository, *supra* note 5.

There is also a sound argument that homes offering low commissions are of higher quality than other homes on average. If a seller offers a low buyer agent commission, despite knowing (perhaps because their listing agent told them) that doing so will make it harder to sell their home, then that may be because the seller knows their home is an especially easy home to sell. If so, buyer agent steering would be even more impactful than our results indicate.

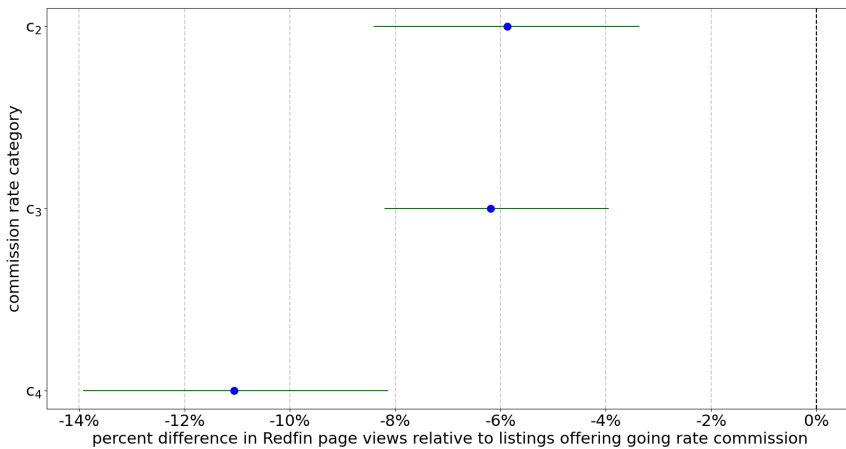
341. There are multiple possible reasons why this might be the case. If commissions are split between the agents for the buyer and the seller in a fixed proportion (for example, fifty-fifty), then a lower buyer agent commission implies a lower listing agent commission. Lower-quality agents might be willing to take on listings for lower compensation than higher-quality agents. Alternatively, if listing agents are trained to persuade sellers to offer large buyer agent commissions, those who fail to persuade their buyers to do so may be less effective overall.

342. These firms are Berkshire Hathaway, Century 21, Coldwell Banker, Compass, eXp Realty, Keller Williams, RE/MAX, and Redfin. We have a separate dummy variable for each. See *supra* Section II.F.

Third, we repeat our analysis on a subset of our data. Specifically, we limit our dataset to listings for which the listing agent has at least one Low-Commission listing in our dataset.³⁴³ If Low Commissions are associated with low-quality listing agents, then limiting the analysis to the listings represented by these agents would control for listing agent quality.

Of the approximately 140,000 unique listing agents in the dataset, 17% of them, or around 24,000, have at least one Low-Commission listing.³⁴⁴ These agents do not seem much different from the other agents in our dataset; the median agent in the subset has the same number of listings as the median agent in the full dataset; the mean is slightly higher.³⁴⁵ Figure 15 below presents our findings for this subset of listings on the national level. Table 5 presents the same information in tabular form.

Figure 15: Effect of Commission Category on Redfin Page Views on the National Level, Only Listings with Listing Agents Who Offered Low Buyer Agent Commissions



343. In this analysis, we no longer control for the market share of the listing agent's brokerage or whether the listing agent works for one of the major national brokerages; it is otherwise identical to our previous analysis.

344. The exact number of unique agents in our dataset is 140,783. Github Repository, *supra* note 5.

345. The median number of listings in both populations is 1.0; the subset has a mean of 2.51, compared to 1.88 for the full dataset. *Id.* Because of the higher mean, the 17% of agents in the subset represented 23% of the listings in the dataset, or roughly 61,000 listings. *Id.*

Table 5: Effect of Commission Category on Redfin Page Views on the National Level

Commission Category	Best-Guess Estimate for Percent Difference	90% Credible Interval	Probability Percent Difference < 0
c ₂	-5.9%	[-8.4%, -3.4%]	> 99.9%
c ₃	-6.2%	[-8.2%, -4.0%]	> 99.9%
c ₄	-11.0%	[-13.9%, -8.1%]	> 99.9%

The last column reports the estimated probability that the true percent difference is negative.

This analysis shows that, even among listing agents who are willing to offer Low Commissions, listings that offer Going-Rate Commissions receive significantly more page views than listings that offer Low Commissions. The effect is most pronounced for the lowest-commission properties (c₄), but it still applies to c₂ commissions, which are only slightly below the going rate. These results mirror those derived from the entire dataset.³⁴⁶ They thus provide strong evidence that differences in listing agent quality are not responsible for the page view disparities we observe.

To further investigate any effects of listing agent quality, we also consider property photographs. Redfin users can view each listing's primary photo before clicking on the listing. Almost all home buyers use the internet in their search, and 85% report that photos are a "Very Useful" feature of real estate websites.³⁴⁷ If low-quality agents connect their sellers with low-quality photographers who take low-quality photographs, that could potentially result in fewer page views for Low-Commission listings.

To investigate this, we inspected the primary photo for a random sample of homes in each commission category.³⁴⁸ We found no obvious relationship between photo quality and commission rate.³⁴⁹ This further suggests that the decrease in page views for Low-Commission listings is not attributable to lower-quality listing agents.

³⁴⁶. See *supra* Table 5.

³⁴⁷. NAR 2023 REPORT, *supra* note 72, at 56.

³⁴⁸. We ran this comparison in December 2022, months after most of these listings were on the market. To ensure that the photos had not changed in the interim, we only looked at listings (1) for which the listing brokerage listed in December 2022 matched the listing brokerage scraped by Vertical Knowledge when the listing was on the market, and (2) that still had photos available on Redfin in 2022. We looked up listings until we found 30 in each category that met both these conditions. These photos can be found at Jordan M. Barry, Will Fried & John William Hatfield, Listing Photos (Dec. 8, 2022), <https://docs.google.com/presentation/d/1lo486HYWpv37h3PnU2L65r3ppvDVYIR8lhgoi4xqx1U> (on file with the *Iowa Law Review*).

³⁴⁹. It is difficult to test this systematically. The attractiveness of the photograph is difficult to disentangle from the appearance of the property itself.

A second potential alternative explanation is that seller pricing behavior explains our page view results.³⁵⁰ We expected that, all else being equal, underpriced homes would receive more page views. This could happen both because buyers are presumably looking for better deals and because Redfin and MLS searches allow users to filter results based on price.³⁵¹ And indeed, the data bears out this prediction.³⁵²

It is possible that sellers who offer Low Commissions also overprice their homes more than other sellers do. If this is the case, overpricing could reduce these homes' page views, and this effect could potentially be misattributed to Low Commissions.

The data contradicts that narrative. First, our regression includes controls for the degree of over- and underpricing for each listing, which directly addresses this concern.³⁵³ Second, we calculated the distribution of over- and underpricing for listings in each commission category.³⁵⁴ The distributions are quite similar. In fact, to the extent that they differ, commission categories c_3 and c_4 exhibit a greater degree of *underpricing* than the other categories.³⁵⁵ This runs directly contrary to the posited scenario, in which Low Commissions correlate with overpricing.³⁵⁶

C. LOW COMMISSIONS AND SALES

If buyer agents steer their clients away from Low-Commission properties, one would expect—and worry—that this would result in worse sale outcomes for sellers who offer Low Commissions. Low-Commission listings could take

350. Listings in each commission category experienced approximately the same number of listing price reductions, with lower-commission listings exhibiting price cuts slightly more frequently. Listings offering c_1 commissions averaged 0.42 price reductions; c_2 listings 0.57; c_3 listings 0.50; and c_4 listings 0.43. Approximately 70% of listings in each category had zero price drops. Github Repository, *supra* note 5.

351. For example, imagine two identical homes, one of which has an asking price of \$395,000 and the other an asking price of \$405,000. If a user limited their search range to homes listed at less than \$400,000, the former would appear but the latter would not.

352. See *infra* Section III.C.

353. See *supra* Section II.E.

354. Appendix, *supra* note 48, at 23–25 figs.A.9(a)–(d).

355. It is helpful to consider homes that sold in comparable time periods, because overpriced homes tend to take longer to sell. Among homes that went under contract within 30 days, the median percent difference between sale price and asking price was 0.0% for both c_1 and c_2 commissions. For c_3 and c_4 commissions, the figures were +0.8% and +1.3%, respectively—that is, these homes sold for slightly *more* than their asking prices, on average. *Id.*

Homes that took longer to sell paint a similar picture: To the extent that pricing patterns differ, lower-commission homes exhibit more underpricing. For the median c_1 and c_2 home that sold in thirty to sixty days, the percent difference between sale price and asking price was -4.3% and -4.2%, respectively. For c_3 and c_4 commissions, the figures were -3.5% and -2.3%, respectively. For homes that sold in sixty to ninety days, the corresponding figures are -6.6%, -7.9%, -5.8%, and -4.0%. *Id.* at 26–30 figs.A.10(a)–(d), A.11(a)–(d).

356. There are several possible reasons why sellers offering low commissions underprice more than other sellers. It could be that they are willing to accept a lower price because they are keeping more of it (because they are paying lower commissions).

more time to sell or might not sell at all.³⁵⁷ In a sense, this is what really matters. Home sellers do not care about page views in and of themselves; page views are only important to the extent that they help sellers find a buyer. Similarly, from a policy perspective, steering would be of little concern to regulators if it only affected website page views. But if buyer agent steering causes Low-Commission listings to sell more slowly, or to not sell at all—or even if sellers merely worry that steering might have these effects—it is a much more serious problem. We investigate these questions below.

1. Time to Sell

To analyze the relationship between commission category and days on market, we conduct largely the same analysis as we did for page views. We again fit a Bayesian hierarchical regression model. We use the same control variables that we used in our analysis of page views.³⁵⁸ There are two key differences from the page view analysis, however. First, our outcome variable for each home now measures that home's days on market.³⁵⁹ Second, we limit the dataset to homes that went under contract within 180 days of being listed.³⁶⁰ Approximately 195,000 homes in our dataset satisfied these criteria.³⁶¹ Figure 16 below presents our findings on the national level. Table 6 presents the same information in tabular form.

357. One might also worry that such homes would sell at lower prices.

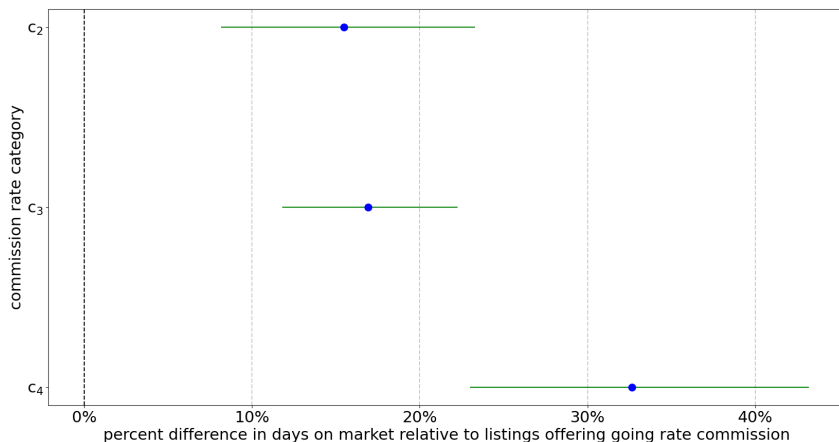
358. Recall that these include geographic location within the metropolitan area, asking price, potential over- or underpricing, listing agent attributes, time trends, and properties of the home itself. See *supra* text accompanying note 265.

359. We use the logarithm of the number of days on market as our measure. This is a common choice in statistical modeling. See, e.g., KENNETH BENOIT, LINEAR REGRESSION MODELS WITH LOGARITHMIC TRANSFORMATIONS 2 (2011), <https://kenbenoit.net/assets/courses/me104/logmodels2.pdf> [<https://perma.cc/JTU2-MFAH>]. The date a home is listed and the pending date both count toward the days on market number. For example, if a home is listed on January 1 and goes under contract the next day on January 2, the days on market would be two. We do not count days in which a listing is off the market. For instance, suppose a home is listed on January 1, taken off the market on January 5, relisted on January 10, and goes under contract January 15. The days on market would be calculated as the number of days from January 1 to January 5 (five) plus the number of days from January 10 to January 15 (six), for a total of eleven. The four days the home was off the market (January 6 through the 9th) would not count toward the total.

360. As before, we remove the 5% most expensive and least expensive homes in each metropolitan area. See *supra* text accompanying note 266. For a given listing to be included in this analysis, the following additional criteria must be met: First, the data must include the list date, pending date and sale date. As with our page views analysis, we exclude properties that went under contract within eight days of being listed. Second, the listing must have been scraped on Redfin either while the property was in the “coming soon” phase or after the property was listed. Third, the property must have sold within 120 days of going under contract. Fourth, we removed the 1.9% of remaining listings for which the days on market was above 180. Finally, we removed the 2.1% of remaining listings which were delisted for more than thirty days in total.

361. See Github Repository, *supra* note 5. In Virginia Beach, Redfin reports previous sale dates, but not when a home was listed or when it went under contract. Because these sale histories are incomplete, we exclude Virginia Beach listings from our sale outcome analyses.

Figure 16: Relationship Between Commission Category and Days on Market, on the National Level



The blue dot represents the best-guess estimate for the percent difference in days on market, relative to listings offering a Going-Rate Commission. The error bar denotes the 90% credible interval for this percent difference. It is colored green if the credible interval does not cross 0%, which signifies that the longer time to sell is statistically significant at the 0.05 level.

Table 6: Relationship Between Commission Category and the Time It Takes to Sell, on the National Level

Commission Category	Best-Guess Estimate for Percent Difference	90% Credible Interval	Probability Percent Difference > 0
c ₂	15.5%	[8.1%, 23.3%]	> 99.9%
c ₃	16.9%	[11.8%, 22.2%]	> 99.9%
c ₄	32.7%	[23.0%, 43.2%]	> 99.9%

The last column reports the estimated probability that the true percent difference is positive.

Figure 16 shows that listings that offer commissions in categories c₂, c₃, and c₄ respectively take an average of 15.5%, 16.9%, and 32.7% longer to sell than listings that offer Going-Rate Commissions. All of these results are statistically significant at the 0.05 level.³⁶² Moreover, the lowest-commission listings (c₄) take significantly longer to sell than other Low-Commission listings (c₂ and c₃). But even c₂ listings, which are only slightly below the going rate, still take significantly longer to sell than listings offering Going-Rate

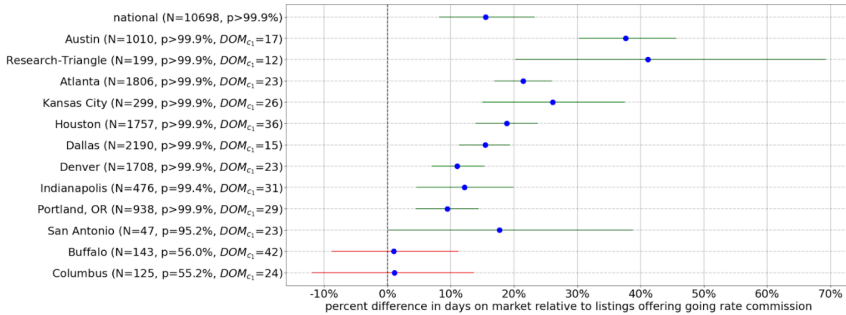
362. They are all significant at the <.001 level.

Commissions.³⁶³ All of these results directly mirror the results of our page view analysis.

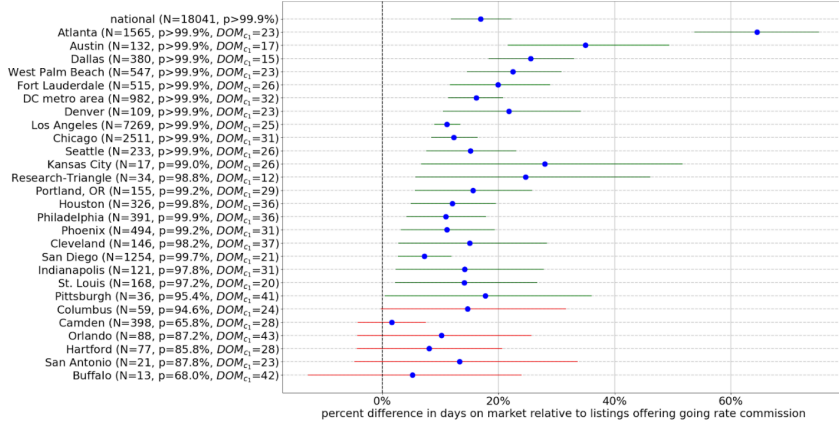
Figure 17 presents our findings for each market in the analysis. Figures 17(a), 17(b), and 17(c), respectively, show the results for listings that offer a commission rate in categories c_2 , c_3 , and c_4 . The Appendix presents the same information in tabular form.³⁶⁴

Figure 17: Relationship Between Commission Category and Days on Market, by Geographic Market

(a) Commission Category c_2



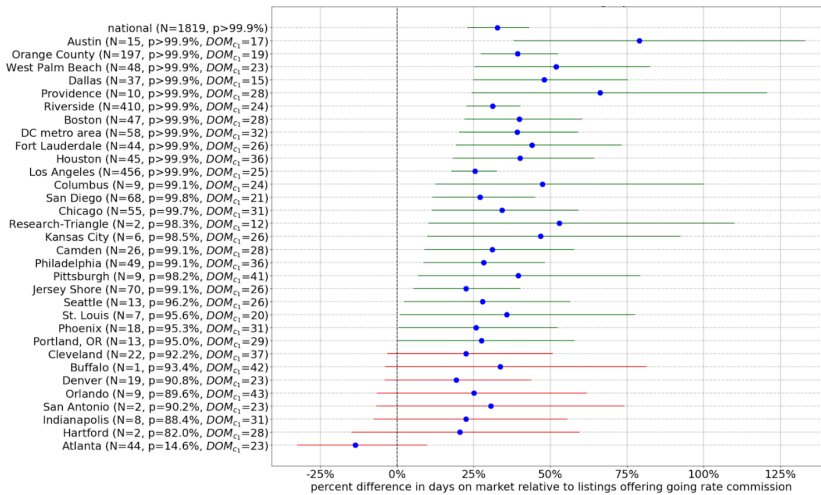
(b) Commission Category c_3



363. This matches the experience of the largest brokerage in Minneapolis, as reported in the 1983 FTC Report. See *supra* text accompanying note 149.

364. See Appendix, *supra* note 48, at 31-33 tbls.A.12(a)-(c).

(c) Commission Category c_4



The blue dot represents the best-guess estimate for the percent difference in days on market, relative to listings offering a Going-Rate Commission. The error bar denotes the 90% credible interval for this percent difference. It is colored green if the credible interval does not cross 0%, which signifies that the longer time to sell is statistically significant at the 0.05 level, and red otherwise. The vertical axis label reports three pieces of information: the number of listings in each market that offer a commission in the given commission category; the probability that the true percent difference in days on market is positive; and DOM_{c_1} , which denotes the average days on market for listings that offered a Going-Rate Commission.

Figure 17 shows that in most markets, listings that offer commissions in categories c_2 , c_3 , and c_4 all take significantly longer to sell than listings that offer Going-Rate Commissions. Within each commission category, this effect generally has similar magnitude across many markets.³⁶⁵

Selling delays of the magnitude that we estimate here would impose significant costs on home sellers. For most sellers, their home is by far their largest asset; home sales and purchases are “the largest financial transaction[s]” that many Americans experience, and they can create tremendous stress.³⁶⁶ Home sellers report that the selling process is more stressful than planning a

365. As noted previously, one should not think about statistical significance as a hard cutoff at 95%. See *supra* note 286 and accompanying text.

366. See, e.g., Bridget Conrad, *Are Home Buyers and Sellers Rational? Do They Exhibit Behavioral Biases?*, LSU (Mar. 4, 2022), <https://www.lsu.edu/business/news/2022/3/are-home-buyers-and-sellers-rational-do-they-exhibit-behavioral-biases-2022.php> [<https://perma.cc/3WXU-Q6CE>]; Jen A. Miller, *When a House Is So Much More*, N.Y. TIMES (Aug. 3, 2018), <https://www.nytimes.com/2018/08/03/realestate/when-a-house-is-so-much-more.html> (on file with the *Iowa Law Review*); Kelsey Ramirez, *Americans Say Buying a Home Is Most Stressful Event in Modern Life*, HOUSINGWIRE (Aug. 6, 2018, 6:20 PM), <https://www.housingwire.com/articles/46384-americans-say-buying-a-home-is-most-stressful-event-in-modern-life> [<https://perma.cc/5H2T-28EH>].

wedding or being fired.³⁶⁷ Over a third of sellers report crying from the stress, with 20% of that group crying five or more times.³⁶⁸ Moreover, home sellers identified “[n]ot knowing if the home would sell within the desired time frame” as a top reason for their home-sale stress.³⁶⁹ Selling delays also mean that homeowners must continue to pay expenses such as property taxes, utilities, and maintenance costs. To make matters worse, most home sellers report that they are trying to buy a new home—a similarly fraught process³⁷⁰—at the same time they are selling their old home.³⁷¹ Many sellers need the proceeds of their old home to make a down payment on their new home, and thus may find themselves in housing limbo until they can sell their old home. Sellers who do purchase a new home before they sell their old home risk having to pay two mortgages simultaneously. This can impose a heavy burden, as housing is by far the largest component of most Americans’ budgets.³⁷² Facing these potential consequences, a rational seller might well conclude that their best course of action is to bear the added cost of paying a Going-Rate Commission.

2. Probability of Sale

We now analyze the relationship between commission category and the chances that a home sells within 120 days of being listed. Our approach closely tracks our approach in our analysis of days on market. However, because we are now predicting a binary variable—a home either sold within the relevant time period or it did not—we now use a Bayesian hierarchical logistic regression model.³⁷³ Figure 18 below presents our findings on the national level. Table 7 presents the same information in tabular form.

367. Press Release, Zillow, More than a Third of Americans Cry While Selling Their Home (June 24, 2019) [hereinafter Zillow Press Release], <https://zillow.mediaroom.com/2019-06-24-More-than-a-Third-of-Americans-Cry-While-Selling-Their-Home> [<https://perma.cc/58TY-5K79>].

368. *Id.*

369. ZILLOW, ZILLOW GROUP CONSUMER HOUSING TRENDS REPORT 2019, at 2 (2019), https://wp-tid.zillowstatic.com/50/CHTR2019_Sellers_webFINAL-63702e.pdf [<https://perma.cc/E6PV-GPPY>] (reporting this as the most frequent reported stressor (56%)); accord Zillow Press Release, *supra* note 367 (reporting 69% stressed by this, second-highest response behind uncertainty over sales price (70%)).

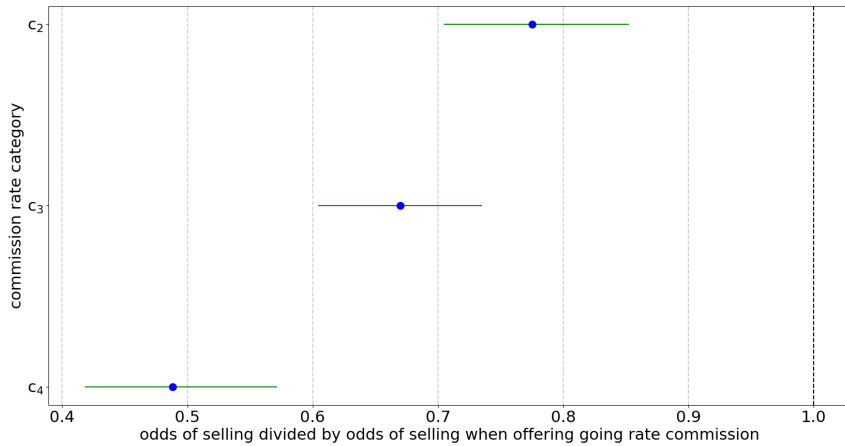
370. Ramírez, *supra* note 366 (stating that “40% [of home buyers] say buying a new home is the most stressful event in modern life” and 30% admitted to crying during the first-time process).

371. Zillow Press Release, *supra* note 367 (“61 percent of sellers are buying a new home at the same time . . .”).

372. *Consumer Expenditures in 2021*, *supra* note 54.

373. Logistic regression is commonly used when the outcome of interest is binary, such as here, where a home either sells or does not. The variable of interest is the natural logarithm of the odds of an event happening—that is, $\ln(p/(1-p))$, where p is the probability of the event happening. See Susan M. Hailpern & Paul F. Visintainer, *Odds Ratios and Logistic Regression: Further Examples of Their Use and Interpretation*, 3 STATA J. 213, 219–22 (2003) (discussing the relationship of logistic regression to predicted probability in case-control studies).

Figure 18: Relationship Between Commission Category and Odds of Selling, on the National Level



The odds of selling is defined as the probability of selling divided by the probability of not selling. This means that if a home has a 90% chance of selling, the odds of selling is $0.9/0.1 = 9$. If a home has an 80% chance of selling if it offers a Low Commission and a 90% chance of selling if it offers a Going-Rate Commission, the odds ratio of selling would be $(0.8/0.2) / (0.9/0.1) = 4/9$. The blue dot represents the best-guess estimate for the odds ratio, while the error bar denotes the 90% credible interval for this odds ratio. This error bar is colored green if the credible interval does not cross 1.0, which signifies that the negative impact on the chances of selling is statistically significant at the 0.05 level, and red otherwise.

Table 7: Odds Ratio of Selling on the National Level

Commission Category	Best-Guess Estimate for Odds Ratio	90% Credible Interval	Probability Odds Ratio < 1
c ₂	0.78	[0.70, 0.85]	> 99.9%
c ₃	0.67	[0.60, 0.74]	> 99.9%
c ₄	0.49	[0.42, 0.57]	> 99.9%

The last column reports the estimated probability that the true odds ratio is less than one.

Figure 18 shows that listings that offer c₂, c₃, and c₄ commissions respectively have odds of selling that are 22%, 33%, and 51% lower than listings that offer Going-Rate Commissions. All of these results are statistically significant at the 0.05 level.³⁷⁴ Moreover, the chances of selling decline as the commission rate offered decreases. There is a 96% chance that the odds ratio for category

374. They are significant at the < .001 level. See Github Repository, *supra* note 5.

c_3 is lower than the odds ratio for category c_2 ; there is almost a 100% chance that the odds ratio for category c_4 is lower than the odds ratio for category c_3 .³⁷⁵

Interpreting odds ratios can be challenging.³⁷⁶ Fortunately, we can present our findings for each market in a more intuitive way: We can calculate the probability that a typical listing in a given market will not sell, assuming that it offers a Going-Rate Commission. We can also calculate the probability that the same listing will not sell, assuming that it offers a Low Commission.³⁷⁷ We can then compare these probabilities to see the relationship between Low Commissions and the probability of not selling. For example, in Atlanta, there is an 11.6% probability that a typical listing will not sell, assuming it offers a Going-Rate Commission.³⁷⁸ If that same listing were to offer a c_2 commission, the estimated probability of not selling would be 16.8%.³⁷⁹ Thus, shifting from a Going-Rate Commission to a slightly lower commission increases the estimated probability of not selling by 45%.³⁸⁰

Figure 19 presents our findings for each market in the analysis. Figures 19(a), 19(b) and 19(c) respectively show the results for listings that offer commission rates in categories c_2 , c_3 , and c_4 . The Appendix presents the same information in tabular form.³⁸¹

375. The probability is $< .001$.

376. See generally Hailpern & Visintainer, *supra* note 373. Unfortunately, there is no obvious, easier way to communicate our findings on the national level.

377. We define a typical listing in a given market as a single-family home with all the control variables set to their median value in that market. We assume that the listing agent does not work for one of the large national brokerage firms. Note that the probability that a hypothetical typical listing does not sell is not necessarily the same as the probability of not selling measured over the entire population as a whole. For example, a San Antonio listing that was at the median for all attributes and offered a going-rate commission would have a 42.7% chance of not selling within 120 days; overall, 31% of listings in San Antonio did not sell within that time frame. Cf. *infra* Figure 19 (showing the results of these analyses across markets).

378. See Github Repository, *supra* note 5.

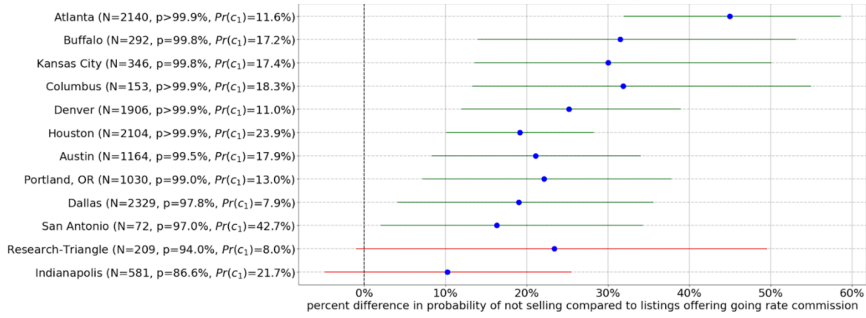
379. *Id.*

380. Calculating the percent change compared to the initial probability of 11.6% yields: $(16.8\% - 11.6\%) / 11.6\% = 45\%$.

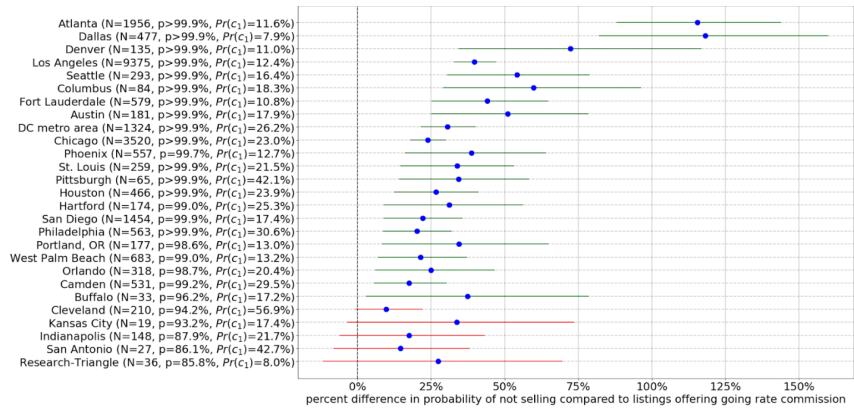
381. Appendix, *supra* note 48, at 34–36 tbls.A.13(a)–(c).

Figure 1g: Relationship Between Commission Category and Probability of Selling, by Geographic Market

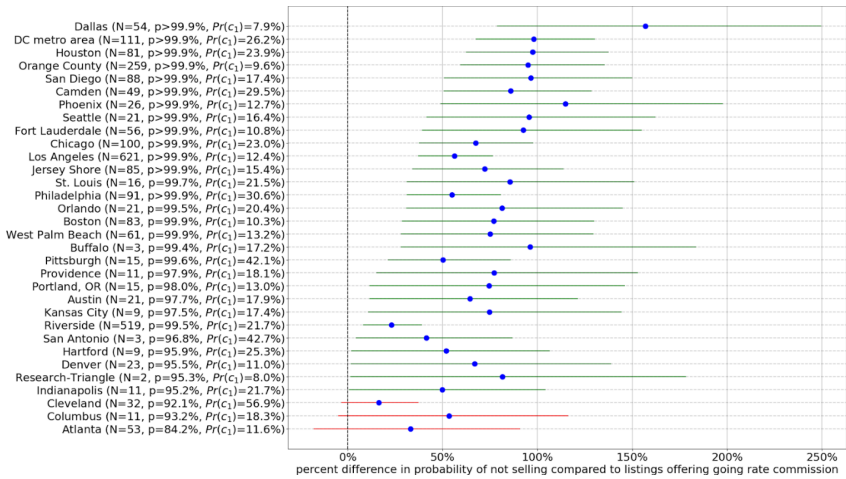
(a) Commission Rate Category c_2



(b) Commission Rate Category c_3



(c) Commission Rate Category c_4



The blue dot represents the best-guess estimate for the percent difference in the probability that a typical listing offering a Low Commission would not sell, relative to the probability that the listing would not sell if it were to offer a Going-Rate Commission. The error bar denotes the 90% credible interval for this percent difference. It is colored green if the credible interval does not cross 0%, which signifies that the negative impact on the chances of selling is statistically significant at the 0.05 level, and red otherwise. The vertical axis label reports three pieces of information: the number of listings in each market that offer a commission in the given commission rate category; the probability that the true percent difference in the chances of not selling is positive; and $Pr(c_1)$, which denotes the probability that a typical listing that offers a Going-Rate Commission does not sell in the given market.

Figure 19(a) shows that, in the vast majority of markets, Low-Commission listings are significantly less likely to sell than listings that offer Going-Rate Commissions. This effect is most pronounced with respect to the lowest commissions (c_4). In almost every market, the best estimate is that listings offering c_4 commissions are at least 50% more likely to not sell than listings offering Going-Rate Commissions.³⁸² Even c_2 commissions, which are close to Going-Rate Commissions, predict a substantially higher chance of not selling.

A failed home sale can be a disaster for a seller. It can leave many financially unable to purchase a new home, placing them in housing limbo for an indefinite period of time. Even those who are able to purchase a new home without selling their prior home face the daunting prospect of paying two mortgages for an extended period of time. Thus, the effects that we find on the probability of a failed sale are highly economically meaningful. Again, facing such potential consequences, a rational seller might well decide to pay a Going-Rate Commission.

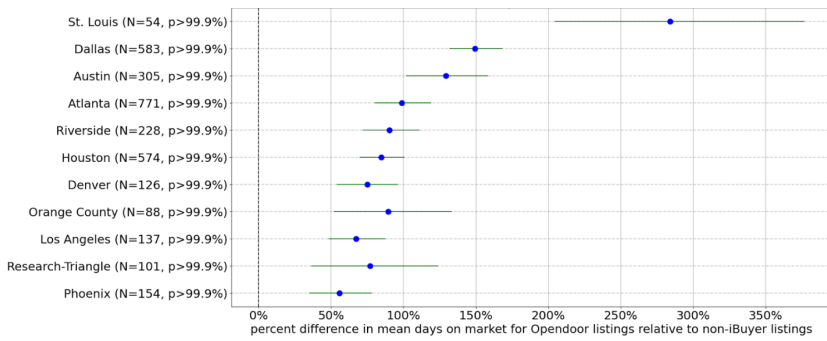
382. See *supra* Figure 19(c) (depicting such a relationship occurring in 27 of 32 markets).

3. iBuyer Results

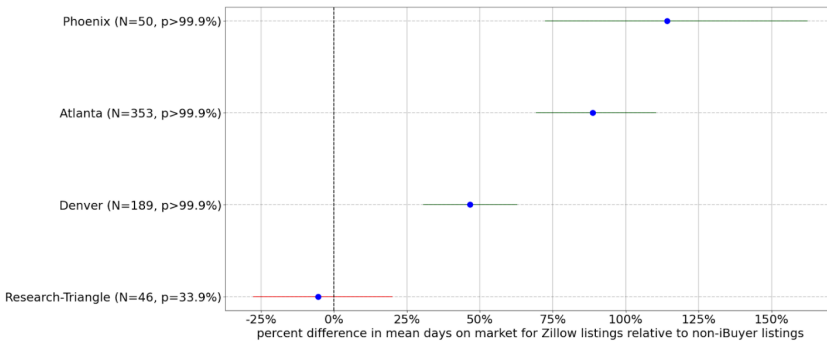
If buyer agents both have the ability to steer clients and are hostile to iBuyers, we would expect iBuyers to have greater difficulty selling homes than other sellers.³⁸³ We therefore compare the time it takes iBuyers to sell their homes to the time it takes traditional listings to sell, again controlling for all other confounding variables.³⁸⁴ Figures 20(a), 20(b), and 20(c) below show the differences for Opendoor, Zillow, and Offerpad, respectively. The Appendix presents the same information in tabular form.³⁸⁵

Figure 20: Comparison of the Time It Takes iBuyers to Sell Homes to the Time It Takes Traditional Listings to Sell

(a) Opendoor



(b) Zillow

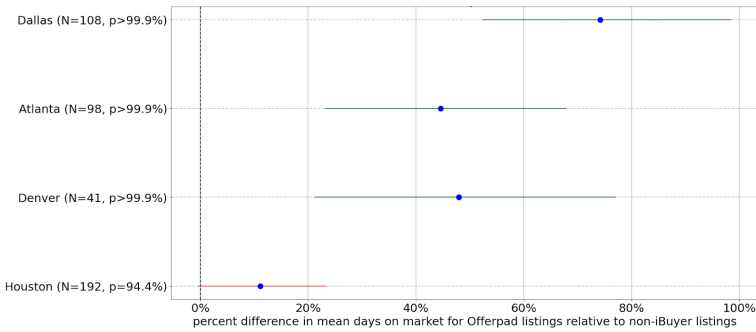


383. There are also other potential reasons why we might see these effects. See *supra* notes 292–93 and accompanying text.

384. Because iBuyers seem more likely to cut home prices when their homes do not sell quickly, see *infra* notes 387–88 and accompanying text, we do not conduct a likelihood of sale analysis on iBuyers relative to other buyers.

385. See Appendix, *supra* note 48, at 37–38 tbl.A.14.

(c) Offerpad



The blue dot represents the best-guess estimate for the percent difference in days on market for iBuyer-owned listings relative to traditional listings, while the error bar denotes the 90% credible interval for this percent difference. This error bar is colored green if the credible interval does not cross 0%, which signifies that the longer time to sell is statistically significant at the 0.05 level, and red otherwise. The vertical axis label reports the number of listings in each market that offer a commission in the given commission category. The graphs are limited to markets in which at least 40 listings in the dataset were sold by the given iBuyer. The vertical axis label also reports the estimated probability that the true percent difference in days on market is positive.

Figure 20 shows that, in most major markets in our dataset in which iBuyers operate, it takes iBuyers significantly longer to sell their homes than other sellers. It is important to emphasize that the differences shown in Figure 20 are in addition to the adverse effect associated with offering a Low Commission.³⁸⁶ In other words, we know from our data that iBuyer listings typically offer Low Commissions; Figure 20 shows the effects of being an iBuyer beyond what one would expect from the effects of the Low Commissions that they offer.

Moreover, there is reason to believe that iBuyers tend to be more motivated to sell than other sellers, as their business model depends on buying and reselling homes quickly. We would thus expect that iBuyers might be more willing to reduce asking prices in order to sell homes than other sellers would be. The data bears this out; the average iBuyer listing was both more likely to have a price reduction and to have multiple price reductions.³⁸⁷ Overall, the average iBuyer listing had approximately twice as many expected price

³⁸⁶. Recall that iBuyers usually offer commissions below the going rate.

³⁸⁷. Only 27% of non-iBuyer listings reduced their prices; for Opendoor this was 41%, Zillow 44%, and Offerpad 31%. Among listings that had at least one price reduction, the average non-iBuyer listing had 1.6 reductions; for Opendoor this was 2.1, for Zillow 2.8, and for Offerpad 2.3. These numbers treat all price changes as price reductions for simplicity; fewer than 10% of price changes in our data are price increases. See Github Repository, *supra* note 5.

reductions as the average non-iBuyer listing.³⁸⁸ The fact that iBuyers still took significantly longer to sell their homes, despite being more willing to cut their prices, suggests that our estimates understate the headwinds that iBuyers face.

Of the three iBuyers, Opendoor seems to fare the worst. Figure 20(a) shows that it takes Opendoor at least 50% longer to sell in every market in which it operates. In many markets, Opendoor listings are sitting on the market for close to, if not more than, twice as long as traditional listings.

4. Tests of Our Analysis and Potential Alternative Explanations

As with our page views analysis, we can gain additional perspective on our results by checking whether our regression coefficients have their expected signs. As before, we find that our measures of over- and underpricing display their expected effects; underpriced homes sell faster and are more likely to sell.³⁸⁹ This gives us additional confidence in our analysis.

Similarly, we ran a number of alternative regressions under different model specifications to confirm that our results are robust. Each of these analyses produced similar results.³⁹⁰ For example, we ran the probability of sale analysis using cutoffs of 90 days and 180 days instead of 120 days; the results of all three analyses were nearly identical.³⁹¹ We also conducted our probability of sale analysis using a Bayesian hierarchical negative binomial regression model; it produces similar results to the log-linear model discussed previously in text.³⁹² Across all of these regression models, we find that lower buyer agent commissions predict a longer time on market and a reduced probability of sale. What's more, we continue to see that these effects are largest for the lowest commissions (c_4).

As for alternative explanations, just as in our page view analysis, we again consider listing agent quality and under- and overpricing as possibilities.

As before, one might be concerned that Low-Commission listings tend to have low-quality listing agents. If so, low listing agent quality for Low-

388. The expected number of price reductions among non-iBuyer listings was 0.44; for Opendoor, it was 0.86; for Zillow, 1.2; and for Offerpad, 0.7. *Id.*

389. Unfortunately, there is little reason to think that the other two variables that we considered under our page view analysis would have strong expected effects here. It is not obvious that Redfin listings would sell faster (or slower) or be more (or less) likely to sell than listings by other brokerages. Similarly, if a home is in a neighborhood that receives many page views, that says relatively little about that home's likelihood of selling quickly or at all. Although Redfin page views are a measure of interest in a property, most people viewing a property on Redfin are probably not serious candidates to buy it imminently; higher page views for a neighborhood may simply signify that it is of greater interest to Redfin hobbyists.

390. As with page views, we again predict time required to sell using an ordinary least squares regression as a robustness check. That analysis estimates that a c_2 commission extends the time it takes to sell a home by 15.6%, a c_3 commission by 14.6%, and a c_4 commission by 31%. All of these effects are statistically significant at the $<.00001$ level. See Github Repository, *supra* note 5. These results closely track the results of our Bayesian analysis. See *supra* Table 6.

391. See Appendix, *supra* note 48, at 39–40 fig.A.15.

392. The log-linear model fits the data better. See Github Repository, *supra* note 5.

Commission properties could cause longer sale times and greater chances of failed sales, rather than steering by buyer agents.

Our time to sale and probability of sale regressions include the same controls for agent quality as our page view regressions. More specifically, we have a control variable for each national real estate brokerage that captures whether the listing agent is affiliated with that brokerage. We also have a control variable for the market share of each agent's brokerage in the relevant geographic market. Just as before, these controls reduce our concerns about listing agent quality.

In addition, we again repeat our analysis but restrict our data to listings for which the listing agent has at least one Low-Commission listing in our dataset.³⁹³ If Low Commissions are associated with lower-quality listing agents, then limiting the analysis to these listings controls for listing agent quality. We again find that the results of this regression are not statistically significantly different from the results of our original analysis; Low Commissions still predict a longer time to sell and a lower probability of sale, and the effects are strongest for the lowest commissions (c_4).³⁹⁴ This alternative analysis provides strong evidence that differences in listing agent quality are not responsible for the observed effects on sale outcomes.

As with page views, we again consider sellers' pricing behavior as another possible alternative explanation. Underpriced homes sell more quickly and are more likely to sell overall.³⁹⁵ If sellers who offer Low Commissions overprice their homes more than other sellers, the effects of overpricing could potentially be misattributed to Low Commissions.

But as with page views, the data contradicts that narrative. Our regression models control for the degree of over- and underpricing for each listing, directly addressing this concern.³⁹⁶ Second, the distributions of over- and underpricing for listings in each commission category are quite similar.³⁹⁷ To the extent that they differ, commission categories c_3 and c_4 again exhibit

393. *Id.* The only difference from the previous analysis is that we no longer control for the market share of the listing agent's brokerage or whether the listing agent works for one of the major national brokerages.

394. *Id.* We note that in our new regression, the odds ratio for the probability of selling a property with a c_2 commission is not statistically significantly different from the same odds ratio for a property with a c_1 commission (p-value 0.15). But, as noted in text, the new best estimate for the c_2 coefficient is also not statistically significantly different from the best estimate of c_2 in our original analysis (p-value 0.08). The estimates for the odds ratios of c_3 and c_4 commissions are both statistically significantly different from the c_1 commission odds ratio and from each other; they are not statistically significantly different from the corresponding estimates in our original regression (p-values 0.17 and 0.36, respectively). *Id.*

395. *Id.*

396. *See supra* Section II.E.

397. *See* Appendix, *supra* note 48, at 23–30 figs.A.9(a)–(d), A.10(a)–(d), A.11(a)–(d). We compare homes that go into contract within 30-day windows (0–30, 30–60, 60–90) because, on average, homes that are on the market for longer tend to be more overpriced. Therefore, these homes are more likely to sell for less than the original asking price.

a greater degree of *underpricing* than the other categories.³⁹⁸ This directly contradicts the posited scenario in which Low Commissions correlate with overpricing.

We recognize that there may be possible confounders here that are not present in our page views analysis. The full sale process involves more interactions between buyers and sellers than viewing listings on Redfin does.³⁹⁹ Sellers who offer Low Commissions may act differently during these interactions than other sellers. For example, they might be less responsive to buyer requests for information, or less willing to accommodate requests to show the home.⁴⁰⁰ If so, this difference in behavior could explain why sellers who offer Low Commissions have more trouble selling their homes.

Unfortunately, we cannot observe the sequence of interactions between sellers and prospective buyers directly. However, nothing in what we *can* observe suggests that these sellers act differently from other sellers, other than offering Low Commissions. They do not overprice their homes; if anything, they underprice relative to other sellers.⁴⁰¹ If home sellers offering Low Commissions were less responsive or more difficult to deal with than other sellers, one would expect this behavior to continue throughout the entire sale process, and to delay closings. But once they go under contract, homes offering Low Commissions take the same amount of time to complete the sale process as homes offering Going-Rate Commissions.⁴⁰² It is always possible that sellers act differently in arenas that are beyond the reach of our data—but it would be odd if they *only* acted differently in the arenas outside of our data.

IV. POLICY IMPLICATIONS

Given the size and importance of the U.S. residential real estate market, our findings have significant policy implications. We begin by considering policy responses to address the specific issue of commission-based steering. We then consider some larger policy implications that flow from our results.

A. RESPONSES TO COMMISSION-BASED STEERING

Commission-based steering can potentially cause multiple harms. It is worthwhile to briefly clarify these harms before proceeding further, so that we can understand what problems policy responses need to address. First, commission-based steering harms buyers. By preventing buyers from seeing homes that might be of interest, it leads to a less-efficient matching of people to homes. Second, commission-based steering harms sellers who offer Low

398. See *supra* notes 355–56.

399. These interactions include indirect transactions, intermediated by their respective agents.

400. The opposite could also be true, in which case our analyses underestimate the predicted effects of offering low buyer agent commissions.

401. See Appendix, *supra* note 48, at 23–30 figs.A.9(a)–(d), A.10(a)–(d), A.11(a)–(d).

402. The median days in escrow for c_1 , c_2 , c_3 , and c_4 homes are 35, 33, 35, and 34, respectively; the means paint a similar picture (39.9, 37.9, 40.7, and 39.7). *Id.*

Commissions. Our analysis indicates that they may take longer to sell their homes, if they sell them at all.

Third, commission-based steering harms sellers who offer Going-Rate Commissions.⁴⁰³ The main reason—perhaps the only reason—for a seller to offer a Going-Rate Commission is to avoid steering. Why else should a self-interested seller pay thousands of dollars to their counterparty's agent? There is good reason to think that this third effect is the largest, simply because most sellers offer Going-Rate Commissions. Indeed, regulators concerned about commission-based steering have mostly expressed concern about steering as a mechanism for keeping commissions high.⁴⁰⁴ In short, when considering policy responses to commission-based steering, one should consider policies' effects on overall commission levels. We now consider four policy proposals that have been put forth to mitigate commission-based steering. In doing so, we note that the recent Class Action Settlement between NAR and various private plaintiffs provides for changes to the residential real estate industry.⁴⁰⁵ We discuss these changes as part of our analysis.

1. Stop Requiring Sellers to Offer Buyer Agent Commissions

Under NAR's historical rules, affiliated MLSs must require sellers to specify a commission for buyer agents in order to list their home on the MLS.⁴⁰⁶ One proposed solution is to make offers of compensation optional in the MLS. That is, rather than requiring sellers to offer a commission, MLSs should allow sellers to offer buyer agents no commission at all. Indeed, the Class Action Settlement took this approach even further; it forbids sellers from posting buyer agent commission rates on the MLS.⁴⁰⁷ This provision has superficial appeal, but our data suggest that it is unlikely to be effective.

First, it is worth noting that the pre-Class Action Settlement MLS rule only required some amount of commission; promising a commission of \$1 would suffice. In this respect, the pre-Class Action Settlement rule did not directly constrain sellers' behavior. Only about 1% of sellers in our dataset offer buyer agent commissions below 2%. Fewer than 0.1% of sellers offer buyer agent commissions that are less than 1%.⁴⁰⁸ Similarly, filings in the *Burnett* case indicate that across four Missouri MLSs, no sellers offered buyer agents the minimum commission of \$1.⁴⁰⁹ It is not obvious why allowing sellers to offer

403. This assumes that sellers ultimately bear the cost of agent commissions. Economically, it is possible that some or all of the true incidence falls on buyers. If so, much of the analysis below would persist.

404. See, e.g., JOINT REPORT, *supra* note 16, at 66–71; 2007 DOJ PAPER, *supra* note 16, at 5–14.

405. Class Action Settlement, *supra* note 70, at 27–31.

406. NAR MLS HANDBOOK, *supra* note 4, at 3, 39.

407. Class Action Settlement, *supra* note 70, at 27–31.

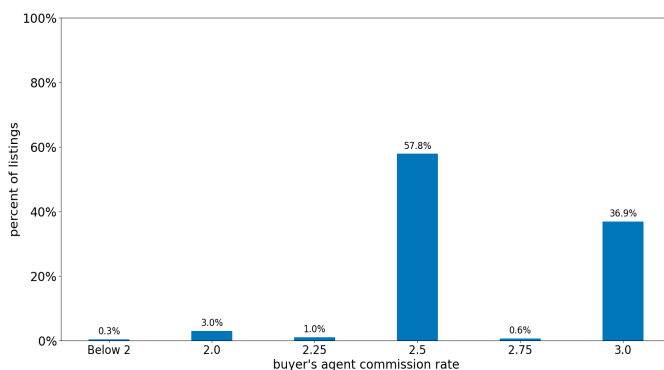
408. See *supra* notes 190–92 and accompanying text.

409. Burnett Summary Judgment Ruling, *supra* note 80, at 19. The four MLSs covered Kansas City, St. Louis, Springfield, and Columbia. *Id.* at 3.

marginally lower minimum commissions would make a difference when sellers virtually never offered the minimum allowable commissions beforehand.

Moreover, in October 2019, Northwest MLS, which primarily serves the Seattle metropolitan area, removed its requirement that sellers offer a buyer agent commission when listing a property for sale.⁴¹⁰ This change seems to have had little impact on buyer agent commissions. Figure 21 below shows the distribution of commission rates in Seattle. It shows the same patterns as many other markets in our dataset: Among the Seattle listings in our dataset, over 95% offer Going-Rate Commissions; only 0.03%—less than one in a thousand—offer commissions below 1%.⁴¹¹ Moreover, there is no indication from our page view, time to sell, or probability of sale analyses that the prevalence of steering in Seattle is noticeably different than in other markets.⁴¹²

Figure 21: Distribution of Buyer Agent Commission Rates in Seattle



If the minimum commission requirement is not driving sellers' current behavior, eliminating the requirement is likely to have little effect on sellers' future behavior; the Seattle experience illustrates this well. To significantly change sellers' behavior, policy must influence the underlying factors that motivate that behavior.

2. Change the Visibility of Buyer Agent Commissions

An odd feature of buyer agent commissions is that they are highly visible and salient to buyer agents, but not to buyers. Buyer agents know how they

⁴¹⁰. Andrea V. Brambila, *Northwest MLS Breaks the Mold to Allow Public Display of Agent Commissions*, INMAN (July 23, 2019), <https://www.inman.com/2019/07/23/northwest-mls-breaks-the-mold-to-allow-public-display-of-agent-commissions> (on file with the *Iowa Law Review*). Northwest MLS is not affiliated with NAR and thus was free to change its rules.

⁴¹¹. Other data sources paint a similar picture. See Andrea V. Brambila, *4 Commission Charts That Explain Both Sides of the Moehrl Conflict*, INMAN (July 8, 2022), <https://www.inman.com/2022/07/08/4-commission-charts-that-explain-both-sides-of-the-moehrl-conflict> (on file with the *Iowa Law Review*) (reporting that 99% of Seattle listings offer buyer agent commissions). As we generally do throughout the article, we use going-rate commissions to include commissions that are at the going rate or higher. In Seattle, the going rate is 2.5%. See *supra* Section II.B.

⁴¹². See *supra* Figures 11(b)–(c), 17(b)–(c), 19(b)–(c).

get paid and have very direct incentives to care about their fees. Moreover, pre-Class Action Settlement, MLS listings generally needed to specify a buyer agent commission. However, until recently, these commissions were only visible to MLS members. Thus, commissions were essentially invisible to buyers themselves. At the same time, buyers do not pay their agents' commissions directly; the money comes out of the sale proceeds that the seller receives.⁴¹³ Many buyers report that they do not know how their agents are paid, or how much.⁴¹⁴

The net result is that buyer agents could easily identify high- and low-commission listings and had strong incentives to steer. Buyers, for their part, have no preference between high- and low-commission homes and cannot easily tell when they are being steered. This combination both increases the possibility of steering and reduces the competitive pressures on buyer agent commissions.

Making buyer agent commissions more visible to buyers would help reduce the amount of steering. As noted previously, buyer agent commissions are now included in the information that MLSs release publicly. While this is a step in the right direction, more could be done. Buyer commission rates could be required to be disclosed more prominently.⁴¹⁵ A public service campaign could encourage buyers to be on guard for steering and to check commission rates on properties.

Ultimately, however, there are limits to how much this strategy can accomplish under the current market structure. If buyer agents curate the listings that they forward to their clients, they have the opportunity to weed out Low-Commission listings without buyers ever knowing; buyers will not see the commissions on the listings that their agents choose not to send them.

In theory, making buyer agent commissions less visible to buyer agents is another possibility. If buyer agents could not see in advance what commissions they stand to receive from different listings, they would not be able to steer their clients on that basis. Such a market structure could exert significant downward pressure on buyer agent commissions. In practice, however, this is unlikely to be a viable option. Assuring buyer agents that they will be compensated if they bring their clients to MLS properties is a core tenet of the MLS system. That, in turn, means informing buyer agents in advance what their compensation will be.

As noted above, the Class Action Settlement removes buyer agent commissions from MLSs.⁴¹⁶ One might think that this would significantly reduce buyer agents' ability to see the commissions that different listings offer them.

413. Of course, sellers might require higher prices to sell their homes because they do not keep the full sale price. If so, buyers are still indirectly paying at least some of their agents' fees.

414. Ptaszynski, *supra* note 78; see also NAR 2023 REPORT, *supra* note 72, at 65.

415. Cf. *Truth in Lending*, OFF. COMPTROLLER CURRENCY, <https://www.occ.treas.gov/topics/consumers-and-communities/consumer-protection/truth-in-lending/index-truth-in-lending.html> [<https://perma.cc/W7RW-3W68>] ("The Truth in Lending Act . . . [R]equires lenders to provide you with loan cost information so that you can comparison shop . . .").

416. Class Action Settlement, *supra* note 70, at 27–28.

But that is not the case. First, the prohibition only applies to *posting commissions on the MLS*; the Class Action Settlement makes clear that sellers can still offer buyer agents compensation.⁴¹⁷ Buyer agent commission information can be posted other places, including on the listing brokerage’s website.⁴¹⁸ In the Internet age, keeping buyer agent commissions off of the MLS accomplishes little. To quote NAR President Kevin Sears,

We will . . . prohibit the offer of cooperating compensation on the MLS. Please hear me clearly. You will still be able to offer compensation to a buyer broker. It just cannot be conveyed on the MLS. And if there’s one thing I know about members, they will figure out how to efficiently communicate the information to see if there will be any cooperating compensation.⁴¹⁹

Thus, this provision is largely symbolic.

Sharran Srivatsaa, President of REAL, a publicly traded brokerage with 16,000 agents, has espoused the same view. Shortly after the proposed Class Action Settlement was publicized, he posted a video presentation that discussed a series of “myths” about the effects of the Class Action Settlement.⁴²⁰ Myth 2 was that the “6% commission will cease to be the norm” and Myth 3 was that “steering will be less common.”⁴²¹ He stated that this provision would not end commission-based steering, and that current commission practices and levels would persist post-Class Action Settlement because sellers would remain afraid of commission-based steering by buyer agents:

The listing agent will advise the clients to offer cooperating commission because if they don’t offer a cooperating commission, then they know that they’re going to be at a competitive disadvantage.

. . . .

Steering is very normal. And steering is alive and kicking and is not going to go anywhere. Seller is going to offer compensation. Buyer’s agent is going to find out what that compensation is. And the buyer’s agent is gonna advise or steer. Very normal. So it’s gonna be just fine.⁴²²

While this provision of the Class Action Settlement seems unlikely to help reduce commission-based steering, that does not mean it will have no effects; we expect this provision will make the problem *worse*. Shortly before the Class

⁴¹⁷. *Id.*

⁴¹⁸. *Id.*

⁴¹⁹. Notorious ROB, *Kevin Sears: Discussing Key Settlement Considerations and Ongoing Advocacy Efforts On the Road*, YOUTUBE, at 3:00 (Mar. 23, 2024), <https://www.youtube.com/watch?v=ZNFygov8dug> [<https://perma.cc/8GGB-WFHA>].

⁴²⁰. Real, *NAR Settlement + Buyer Agency Breakdown with Real President @sharran*, YOUTUBE, (Mar. 18, 2024), <https://www.youtube.com/watch?v=tExxnzJwZlo&t=1785s> [<https://perma.cc/6UMC-A6RY>].

⁴²¹. *Id.* at 27:40–28:50, 29:30–30:30.

⁴²². *Id.* at 28:00–28:10, 30:12–30:26.

Action Settlement, the DOJ's Proposed Settlement with NAR made buyer agent commissions visible to non-MLS members, including regulators and independent researchers, for the first time.⁴²³ That Proposed Settlement enabled us to write this Article. But now that commissions will no longer be accessible in a centralized place (the MLS), it will be much harder to systematically assemble commission information. Thus, buyer agents should still find it easy to steer based on commissions, but it will be harder to investigate the prevalence and effects of such steering.

Reducing other agents' ability to see what compensation the buyer agent received from a particular transaction could be a more promising strategy. Recall that real estate agents operate in a Collaborative Industry, which makes them interdependent.⁴²⁴ That interdependence means agents can collectively punish those agents who are perceived to be acting against the group's best interests.⁴²⁵

Accordingly, even if an agent is personally willing to accept a Low Commission, she might be worried that doing so will harm her reputation among her peers and lead to retaliation. Those concerns could prop up commission rates; NASDAQ market makers are similar to real estate agents in many ways, and they sustained anti-competitive stock pricing practices through such a mechanism.⁴²⁶

Collective punishment becomes harder when an agent's commissions are less visible to other agents; an agent's rivals cannot punish that agent for behavior that they do not know about. MLS listings currently post the commissions that sellers offer to buyer agents. This makes it easy to see what compensation a buyer agent received from a particular transaction. Removing this information after transactions close could help reduce this effect. However, agents in a particular geographic area might remember Low-Commission listings they saw, and which agents worked on that transaction.

Perhaps a better way to reduce commission visibility is to make it easier for agents to pay buyers a commission rebate. Such rebates are currently visible via Closing Disclosure forms (previously known as HUD-1 forms), which enables other agents to know about them and react.⁴²⁷ Making these rebates less visible could increase their prevalence.

Even so, there may be significant limits to this strategy. In particular, any agents who publicize their willingness to provide rebates would be informing rivals of what they are doing and thus expose themselves to retaliation. Accordingly, agents may be unlikely to advertise available rebates to potential

423. See *supra* Section I.D.

424. Barry et al., *supra* note 60, at 1115; see also Hatfield et al., *supra* note 6, at 2–3.

425. Cf. *supra* note 330 and accompanying text (describing an agent threatening to tell other agents not to work with a local agent who did not conform to industry pricing norms).

426. William G. Christie & Paul H. Schultz, *Why Do NASDAQ Market Makers Avoid Odd-Eighth Quotes?*, 49 J. FIN. 1813, 1838–39 (1994); see also Barry et al., *supra* note 60, at 1127–28.

427. There is anecdotal evidence that agents are more willing to provide rebates when they are not visible to their competitors, such as non-English advertisements or rebates that are given *sub rosa* and left out of the deal documents.

clients. This dearth of rebate advertising would likely dampen price competition among agents.

Buyers can still ask their agents for rebates—in states that do not ban rebates, at least⁴²⁸—and industry spokespeople frequently state that agents and their clients are free to negotiate commissions.⁴²⁹ But because buyers generally do not currently pay their agents directly, many do not discuss fees with their agents at all. A public service campaign encouraging buyers to raise this topic with their agents—perhaps one that emphasized how much money they could potentially save—could be helpful.

3. Strengthen Agent Loyalty Requirements

The NAR Code of Ethics states that agents have an ethical obligation to serve their clients' interests rather than their own.⁴³⁰ Some states have specific statutes that impose such a requirement as a matter of law.⁴³¹ Real estate agents and brokerages are also potentially subject to common law agency rules.⁴³² These measures are not perfect solutions to agency cost problems, but each presumably has some effect on agents' willingness to put their clients' interests ahead of their own.

Policymakers could strengthen these measures. State statutes could prohibit steering more explicitly. This could help make the prohibitions on these behaviors clearer and more salient to agents.

One limitation of these loyalty requirements is that, in practice, steering carries few consequences. A buyer who is steered is unlikely to know about it. A buyer who becomes aware could report their agent to the agent's professional disciplinary body, but this will take time and effort and is unlikely to produce any direct benefit to the buyer. Even if a buyer files a complaint,

428. See 2007 DOJ PAPER, *supra* note 16, at 16 n.54 (listing states with rebate bans).

429. See, e.g., Tracy Kasper, *Buying a House? Don't Go It Alone. A Real Estate Agent Can Make All the Difference.*, USA TODAY (Dec. 19, 2023, 10:59 AM), <https://www.usatoday.com/story/opinion/2023/12/17/realtors-lawsuit-real-estate-agent-commission-negotiable/71905382007> [<https://perma.cc/478X-DHKE>] (“Real estate commissions are negotiable.”); Nat’l Ass’n of Realtors, *How Real Estate Compensation Works*, <https://www.nar.realtor/sites/default/files/documents/how-real-estate-commissions-work-2022-08-01.pdf> [<https://perma.cc/LP9A-QPGW>] (“Commissions are always negotiable.”); Melissa Tracey, *Why You Should Tell Clients How You’re Compensated*, REALTOR® MAG. (Sept. 13, 2022), <https://www.nar.realtor/magazine/real-estate-news/sales-marketing/why-you-should-tell-clients-how-youre-compensated> [<https://perma.cc/7QP6-5L3Q>] (“Agents should . . . always stress that commissions are negotiable, says Lynn Madison, . . . owner of training company Lynn Madison Seminars.”); Video: *How to Explain Real Estate Compensation to Clients*, REALTOR® MAG. (Oct. 11, 2023), <https://www.nar.realtor/magazine/real-estate-news/sales-marketing/video-how-to-explain-real-estate-compensation-to-clients> [<https://perma.cc/D3W3-T7C3>] (“Compensation is always negotiable.”).

430. NAR CODE OF ETHICS, *supra* note 30, art. 1 (“[Realtors] pledge themselves to protect and promote the interests of their client. This obligation to the client is primary . . .”).

431. For example, Wisconsin law states: “A firm providing brokerage services to a client owes the client . . . [t]he duty to loyally represent the client’s interests by . . . [p]lacing the client’s interests ahead of the interests of the firm.” WIS. STAT. § 452.133(2) (2023-2024).

432. See RESTATEMENT (THIRD) OF AGENCY § 3.15 cmt. f (AM. L. INST. 2006) (describing common law agency relationships of real estate agents and brokers).

an agent is unlikely to face serious discipline for commission-based steering.⁴³³ When steering violates state law, a buyer could bring a lawsuit or, in some instances, report the agent to a state regulator. However, lawsuits are both expensive and time-consuming, and it may be difficult for the buyer to prove the damages they have suffered from the agent's disloyalty.⁴³⁴ Moreover, regulators may not be eager to pursue commission-based steering violations. For example, CBC reported the steering behavior they uncovered to the Real Estate Council of Ontario ("RECO").⁴³⁵ RECO subsequently issued a bulletin to real estate agents in its jurisdiction, reminding them that steering is illegal.⁴³⁶ However, it does not seem to have taken any direct disciplinary actions against any agents. Instead, it referred CBC to the Canadian Real Estate Association ("CREA"), Canada's real estate agent industry association, for internal discipline.⁴³⁷ CREA, for its part, denied that steering was within its purview.⁴³⁸

One way to strengthen these rules would be to create statutory minimum penalties for violations. This would enable harmed clients to collect some amount of damages easily. In other words, such minimums would mean that buyers would not have to show exactly how much harm they suffered from their agent steering them. Statutory minimum penalties could also make the potential consequences of steering more salient for agents, thereby encouraging them to comply with their ethical and legal duties.

Agencies could also use targeted enforcement activities to increase agents' compliance with their ethical obligations. For example, agencies could work with buyers to investigate whether agents are steering buyers away from Low-Commission properties, much like CBC did. Agencies could partner with consumer advocacy groups, thereby bringing in their resources to help identify instances of steering. Regulators could then discipline any agents found to be engaging in steering. Regulators should publicize both their investigatory efforts and any punishments they mete out: Making real consequences visible to the agent community could significantly change behavior.

There is especially good reason to think that added enforcement could be effective in this context because real estate agents operate in a Collaborative Industry. Some steering activity is likely driven by agents' desire to stay in the good graces of other agents. Concern over disciplinary consequences gives agents cover to change their behavior and can help bring about a shift in

433. To the best of our knowledge, no Realtor has suffered significant disciplinary consequences from commission-based steering.

434. For example, suppose a buyer bought a home for \$400,000, that an identical home with a lower commission was available for \$350,000, and that the buyer agent never showed the buyer the latter home because the commission rate was lower. In this case, the buyer can make a straightforward claim that they are \$50,000 worse off because of the agent's actions. However, in practice, homes differ along many dimensions; even identical homes will have (at least slightly) different locations. This can make proving damages more challenging.

435. CBC News, *supra* note 279, at 20:02.

436. *Id.* at 19:33.

437. *Id.* at 19:48.

438. *Id.* at 18:50.

norms that would otherwise be difficult or impossible to coordinate across an industry.

The experience of NASDAQ market makers is encouraging here. The industry enforced its anticompetitive pricing practices via peer pressure and retaliation, and those pricing practices remained stable for many years.⁴³⁹ These practices were first publicized in an academic article by Christie and Schultz.⁴⁴⁰ The *Wall Street Journal* and the *Los Angeles Times* published stories about it, and—within three days—firms abandoned the anticompetitive practice.⁴⁴¹ The DOJ conducted a two-year investigation that led to a significant settlement with numerous market makers.⁴⁴² That settlement included several provisions intended to thwart future anticompetitive conduct.⁴⁴³ Last but not least, private plaintiffs brought a class action and recovered over \$1 billion in damages.⁴⁴⁴

To be sure, intervention is unlikely to produce such dramatic results in this context: Once scholars, journalists, and regulators knew what to look for, the behavior in the NASDAQ case was much easier to observe than commission-based steering.⁴⁴⁵ Nonetheless, both industries are Collaborative Industries. Weakening intra-industry discipline in the real estate context could lead to more price-cutting. The more that sellers offer commissions below the going rate, the harder it would become to discipline those sellers, and the more accepted those lower commissions would become. Thus, dampening intra-industry discipline could feed a virtuous spiral, as it did in the NASDAQ context.

Another potential strategy would be to make brokerages liable for steering conducted by their agents. This could incentivize brokerages to police steering by their agents. It could also make steering easier for regulators to prove: It is hard to be certain that any one buyer agent's decision to not forward a particular listing was motivated by steering concerns, rather than a sincere belief that the client would not be interested in the specific home. But when larger patterns of behavior indicate that Low-Commission homes are consistently forwarded less frequently, that is strong evidence of commission-based steering. Making entire brokerages permissible units of analysis, rather than forcing regulators to prove steering by a particular agent, might make steering easier for regulators to prove. It would also raise the visibility of enforcement actions, potentially increasing the deterrent effects of enforcement and encouraging regulators to pursue greater levels of enforcement. Even so,

439. Barry et al., *supra* note 60, at 1127–28.

440. Christie & Schultz, *supra* note 426, at 1838–39.

441. William G. Christie, Jeffrey H. Harris & Paul H. Schultz, *Why Did NASDAQ Market Makers Stop Avoiding Odd-Eighth Quotes?*, 49 J. FIN. 1841, 1841–43 (1994).

442. Competitive Impact Statement at 4–6, 24–26, *United States v. Alex. Brown & Sons, Inc.*, 169 F.R.D. 532 (S.D.N.Y. 1996) (No. 96 Civ. 5313).

443. *Id.*

444. Arthur M. Kaplan, *Antitrust as a Public-Private Partnership: A Case Study of the NASDAQ Litigation*, 52 CASE W. RESV. L. REV. 111, 111 (2001).

445. The behavior in question pertained to an easily observable feature of bid/ask spreads on publicly traded stocks. Christie & Schultz, *supra* note 441, at 1815–18.

this approach requires regulators—who have limited resources—to make significant efforts to police steering. And, as discussed above, the Class Action Settlement makes it harder for regulators to determine the prevalence and effects of commission-based steering.⁴⁴⁶ Without regulators’ firm commitment, this approach is unlikely to succeed.

4. Prohibit Buyer Agents from Accepting Compensation from Sellers

Another possibility is to target the market structure directly, by prohibiting buyer agents from accepting compensation from sellers or sellers’ agents.⁴⁴⁷ This is perhaps the most significant change we suggest to the existing system. Nonetheless, it is already within the realm of political discourse: The Biden Administration encouraged the FTC to consider similar possibilities in a July 2021 executive order.⁴⁴⁸

Of course, buyer agents do not offer their services solely from the goodness of their hearts; they are professionals performing a service, and they expect to be compensated. If they cannot collect payments from sellers, buyer agents would presumably seek compensation from their clients. For example, buyer agents might enter contracts with their clients that require the client to pay the buyer agent a specified commission upon the closing of a home purchase. If buyers paid their agents directly, that would be a more typical and straightforward compensation structure, in which the beneficiary of the agent’s services negotiates and pays for them directly. It is strange to have an agent’s services paid for by a counterparty; we would look askance at a defendant who offered to pay a bonus to a plaintiff’s attorney if the plaintiff agreed to settle a case.⁴⁴⁹ Under this new system, sellers would not be choosing buyer agent commissions, so buyer agents would have no incentive to engage in the kind of steering that we discuss in this Article.

The Class Action Settlement makes a major move in this direction. It requires a buyer agent to enter into a written agreement with a buyer early in the home-buying process.⁴⁵⁰ That agreement must specify the amount or rate of compensation that the buyer agent will receive for their services, and that amount must be “objectively ascertainable and may not be open-ended.”⁴⁵¹

446. See *supra* Section IV.A.2.

447. Alternatively, one could produce the same result by prohibiting sellers and their agents from paying buyer agents.

448. Exec. Order No. 14036, 86 Fed. Reg. 36,987 (July 9, 2021) (“To address persistent and recurrent practices that inhibit competition, the Chair of the FTC, in the Chair’s discretion, is also encouraged to consider working with the rest of the Commission to exercise the FTC’s statutory rulemaking authority, as appropriate and consistent with applicable law, in areas such as . . . unfair tying practices or exclusionary practices in the brokerage or listing of real estate . . .”).

449. The NAR Code of Ethics recognize this, in a way. Article 7 prohibits agents from accepting compensation from more than one party to a transaction, even if legally permitted, without disclosure to and informed consent from all parties. NAR CODE OF ETHICS, *supra* note 30, art. 7.

450. Class Action Settlement, *supra* note 70, at 28–29.

451. *Id.* at 29.

The buyer agent's compensation cannot be "whatever amount the seller is offering to the buyer", and the buyer agent may not receive compensation, from any source, beyond the amount in the buyer agreement.⁴⁵²

Unfortunately, as written, these provisions may still result in sellers effectively setting buyer agents' compensation. If so, commission-based steering is likely to persist. For example, suppose a buyer agent's contract with their client guarantees them a minimum commission of 1%, but allows them to collect additional commissions if paid by the seller, up to a maximum of 3%. That is arguably not "open-ended", as the commission falls within a defined range, nor does it promise the buyer agent whatever the seller offers them. Thus, such an agreement might comply with the Class Action Settlement. Yet, such agreements would give buyers, sellers, and their agents essentially the same incentives that they had before the settlement—along with the same incentives to engage in commission-based steering.⁴⁵³

Professor Tanya J. Monestier has been tracking buyer agent agreements post-Class Action Settlement.⁴⁵⁴ She finds that many post-Class Action Settlement buyer agreements include functionally similar provisions or include other terms that violate the letter and/or the spirit of the Class Action Settlement. These include provisions that:

- contemplate modifying the buyer agreement upward to allow the agent to get more compensation than the buyer agreement specifies;
- allow buyer agents to receive "bonuses" paid by sellers;
- allow the buyer's agent to collect a guaranteed payment from the buyer as well as whatever cooperating compensation the seller offers; and
- allow the buyer's agent to collect whatever is being offered by the seller's agent.⁴⁵⁵

In short, the Class Action Settlement does not sufficiently separate buyer agents' commissions from sellers' decisions. But some lawyerly tweaks to the Class Action Settlement's provisions—perhaps at the DOJ's behest—could achieve that result.⁴⁵⁶ Such a scenario would likely place downward pressure on real estate agent commissions. Currently, listing agents actively buoy buyer agent commissions by telling sellers that low commissions will leave them vulnerable to steering.⁴⁵⁷ That would end if sellers could not offer buyer agent

452. *Id.*

453. *See generally* Jordan M. Barry, Will Fried & John William Hatfield, Evaluating the March 2024 Proposed NAR Settlement (Apr. 17, 2024), <https://ssrn.com/abstract=4782380> [<https://perma.cc/KGH3-CD7Q>].

454. TANYA J. MONESTIER, REPORT ON BUYER REPRESENTATION AGREEMENTS POST NAR SETTLEMENT 10–16 (2024), <https://www.law.buffalo.edu/content/dam/law/content/faculty-staff/monestier-report-on-bra-post-nar-settlement.pdf> [<https://perma.cc/J3D4-7BB2>].

455. *Id.* at 3, 6–16, 18–20.

456. *See* Barry et al., *supra* note 453. Another key wrinkle is: If the seller offers more compensation than the buyer agent can accept, who reaps the benefit? The Class Action Settlement says the answer cannot be the buyer agent, but the buyer, seller, or the seller's agent are all possible beneficiaries. To foster competition, buyer should benefit. *Id.*

457. *See supra* Section III.B.4.ii.

commissions. Buyer agents would be forced to negotiate with their clients and convince them to pay for the value that they provide. Buyers, for their part, would be given a straightforward opportunity to determine how much the agent's services are worth to them, rather than having those costs be opaque and indirect, as they are now.

Prohibiting buyer agents from accepting compensation from sellers might also help reduce listing agents' commissions. First, as mentioned previously, high buyer agent commissions, buoyed by sellers' fear of steering, may serve as an anchor point that boost listing agent commissions as well. Second, many sellers currently take it as a given that total agent commissions are 5 to 6% and do not try to negotiate downward.⁴⁵⁸ Changing the existing system might also convey the message that commissions are negotiable and thus invite greater negotiation by sellers. If commissions seem less fixed, sellers might also place greater weight on commissions when selecting a listing agent, which could increase price competition among agents.

One wrinkle to this proposal, however, is that many home buyers are cash-constrained and already struggle to afford a down payment. NAR and Schnare et al. have argued that, if buyers must pay their agents, buyers would need to bring even more cash to the table.⁴⁵⁹ They further argue that buyers would not be able to secure these funds from their mortgage lender. Thus, the net effect would be to make it harder for people to buy homes.

However, this need not be the case. In today's system, the buyer agent commission can be financed because this commission is baked into the sale price. This structure can persist in a world where buyers set their own agents' compensation. Buyers can simply add the negotiated commission on top of the offer price; the home purchase contract would then require the seller to pay the buyer agent this negotiated commission from the sale proceeds.⁴⁶⁰ Thus, the total price of the home would still have the buyer agent commission baked in. The only difference is that this commission would be negotiated between the buyer and their agent instead of being set up front by the seller.

458. See, e.g., Press Release, Consumer Fed'n of Am., Most Consumers View Real Estate Industry and Services Favorably but Understand Them Poorly and Object to Specific Practices (June 4, 2007), https://consumerfed.org/press_release/most-consumers-view-real-estate-industry-and-services-favorably-but-understand-them-poorly-and-object-to-specific-practices [<https://perma.cc/4N8F-HL8V>] (stating that only 26% of survey respondents knew that buyer agent commissions can be negotiated, and that most respondents thought that commissions were set by the brokerage industry or state law).

459. Home Services of America, the nation's largest residential real estate services company (as measured by transactions closed), funded this report. See Ann B. Schnare, Amy Crews Cutts & Vanessa G. Perry, *Be Careful What You Ask For: The Economic Impact of Changing the Structure of Real Estate Agent Fees* 30 (May 2022) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4106600 [<https://perma.cc/ZF58-TB43>]; see also Charlie Oppler, *Oppler: Industry Expert Rebuts – Realtors Put Consumers First*, BOS. HERALD (Oct. 18, 2021, 12:24 AM), <https://www.bostonherald.com/2021/10/18/oppler-industry-expert-rebuts-realtors-put-consumers-first> (on file with the *Iowa Law Review*).

460. For further detail, see Will Fried, *How Homebuyers Can Finance the Commission They Negotiate with Their Own Agents* 16–17 (unpublished manuscript) (Nov. 29, 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4619475 [<https://perma.cc/g9NXW-DGSR>].

Importantly, this approach has been tested; REX used it to enable buyers to finance the commissions they negotiated with their agents. REX used this approach across the country and, according to its CEO, it did not encounter any issues.⁴⁶¹

If commission levels remain unchanged, then the new system would operate in essentially the same way as the current system. But if having buyers negotiate commissions with their agents caused real estate agent commissions to decrease—which we think is a likely outcome—then buyers would pay less.⁴⁶² Homes would become *more* affordable.

B. IMPLICATIONS FOR OTHER POLICY AREAS

Our analysis also has implications for other policy areas. First, reducing real estate commissions would improve housing affordability and labor mobility. Second, our findings inform agency cost estimations in other contexts, particularly those in which principals receive advice from informed but conflicted agents. Third, we provide new insights into Collaborative Industries, especially the ways in which incumbents in such industries may choke off entry and disruptive innovation.

1. Housing Affordability and Housing Market Spillovers

U.S. housing has become increasingly expensive in the last three decades. In 1990, the price of the average single-family home was approximately three times the median household income.⁴⁶³ This is close to the line of what many consider to be the limit of affordable housing.⁴⁶⁴ By 2022, the average single-family home cost a whopping 5.3 times median household income—despite

⁴⁶¹. Declaration of Jack Ryan at 4, *Moehrl v. Nat'l Ass'n of Realtors*, No. 19-cv-01610, 2023 U.S. Dist. LEXIS 53299 (N.D. Ill. Mar. 29, 2023) (No. 324-4) (“In adjusting the home closing price to incorporate the fees the buyer and their agent agree upon, REX has not encountered any issues during the appraisal or financing process.”).

⁴⁶². Exactly how much more affordable homes become would depend on how the incidence of commissions is divided between buyers and sellers. In other words, if commissions were zero, sellers could keep more of the purchase price or buyers could pay lower purchase prices. Most likely, there would be some combination of these effects; buyers would reap some of the benefits but not all. *Cf., e.g.,* Jordan M. Barry & Ariel Jurow Kleiman, *Rationalizing the Arbitrary Foreign Tax Credit*, 75 TAX L. REV. 1, 27–30 (2021) (discussing incidence).

⁴⁶³. Alvin Chang, *How Finding a Home in America Became So Absurdly Expensive*, GUARDIAN (May 10, 2023, 6:00 AM), <https://www.theguardian.com/us-news/2023/may/10/us-housing-market-prices-increasing> [<https://perma.cc/8YU5-CE4R>].

⁴⁶⁴. See *Glossary of Terms to Affordable Housing*, U.S. DEP'T HOUS. & URB. DEV. (Aug. 18, 2011), <https://archives.hud.gov/local/nv/goodstories/2006-04-06glos.cfm> [<https://perma.cc/EZ3Q-DWMU>] (“Affordable housing is generally defined as housing on which the occupant is paying no more than 30 percent of gross income for housing costs, including utilities.”); *Income Limits*, CAL. DEP'T HOUS. & CMTY. DEV., <https://www.hcd.ca.gov/grants-and-funding/income-limits> [<https://perma.cc/Z8DJ-SM9B>] (similar); see also Lily Katz & Taylor Marr, *There Were Half as Many Affordable Homes for Sale in 2022 as There Were in 2021*, REDFIN NEWS (Mar. 3, 2023), <https://www.redfin.com/news/share-of-homes-affordable-2022> [<https://perma.cc/Q92S-3JM2>] (defining a home as affordable “if the estimated monthly mortgage payment is no more than 30% of the local county’s median income”).

significant growth in median household income over that time period.⁴⁶⁵ In several U.S. housing markets, single-family homes reportedly cost over ten times that market's median household income.⁴⁶⁶

To be sure, real estate agent commissions are not the primary driver of increased U.S. home prices. Nonetheless, when attacking a problem as large and multifaceted as U.S. housing costs, a multipronged approach can be helpful. Reducing commissions could lower the cost of buying a house by a few percentage points.⁴⁶⁷ With median home prices reportedly exceeding \$400,000, each percentage point of price is a significant amount of money.⁴⁶⁸

Similarly, a large scholarly literature argues that labor mobility—workers' ability to move to where the highest-paying jobs are—is an important driver of economic growth.⁴⁶⁹

The United States has long been seen as a high-labor-mobility country, though U.S. labor mobility seems to have declined in recent decades.⁴⁷⁰ Several studies have found that increasing workers' willingness to move to higher-wage areas would have substantial positive effects on the U.S. economy.⁴⁷¹

465. Chang, *supra* note 463; *Real Median Household Income in the United States*, FED. RSRV. BANK ST. LOUIS (Sept. 11, 2024, 9:45 AM), <https://fred.stlouisfed.org/series/MEHOINUSA672N> [https://perma.cc/DVT2-GSMF] (reporting median U.S. household income of \$63,830 in 1990 and \$77,540 in 2022, both measured in 2023 dollars); *see also* Katz & Marr, *supra* note 443 (reporting that in 2022, 21% of listings were affordable, compared to 50% in 2013).

466. Chang, *supra* note 463 (reporting figures of 10.8 for San Francisco-Oakland-Hayward, 11.4 for Urban Honolulu, and 12.1 for San Jose-Sunnyvale-Santa Clara in 2022). Other notably high-cost areas include Boulder (8.7), Miami-Fort Lauderdale-West Palm Beach (8.3), Naples-Immokalee-Marco Island (9.7), and San Diego-Carlsbad (9.6). *Id.*

467. For example, if the average total commission dropped from 5.3% to 3%, that could reduce the cost of homes by 2.3%, depending on who bears the true economic cost of commissions. *See* Velt, *supra* note 6.

468. *Existing-Home Sales Housing Snapshot*, NAT'L ASS'N REALTORS, <https://www.nar.realtor/infographics/existing-home-sales-housing-snapshot> (on file with the *Iowa Law Review*) (reporting \$416,700 median sales price); *see also* Ronda Kaysen, *What's Up With the Crazy Housing Market?*, N.Y. TIMES (June 22, 2023), <https://www.nytimes.com/2022/07/08/realestate/housing-market.html> (on file with the *Iowa Law Review*) (reporting median U.S. home sale price of over \$430,000 in May 2022).

469. *See, e.g.*, Raven Molloy, Christopher L. Smith & Abigail Wozniak, *Internal Migration in the United States*, 25 J. ECON. PERSPS. 173, 173–75, 181–82 (2011) (presenting these arguments and collecting sources).

470. *See, e.g.*, Grégory Jolivet, Fabien Postel-Vinay & Jean-Marc Robin, *The Empirical Content of the Job Search Model: Labor Mobility and Wage Distributions in Europe and the US*, 50 EUR. ECON. REV. 877, 881 (2006); Raven Molloy, Riccardo Trezzi, Christopher L. Smith & Abigail Wozniak, *Understanding Declining Fluidity in the U.S. Labor Market*, in BROOKINGS PAPERS ON ECONOMIC ACTIVITY 183, 184–85 (2016); MIKE KONCZAL & MARSHALL STEINBAUM, ROOSEVELT INST., *DECLINING ENTREPRENEURSHIP, LABOR MOBILITY, AND BUSINESS DYNAMISM: A DEMAND-SIDE APPROACH* 5–6 (2016), <http://rooseveltinstitute.org/wp-content/uploads/2016/07/RI-Declining-Entrepreneurship-Labor-Mobility-Business-Dynamism-201607.pdf> [https://perma.cc/G4E5-JPJD].

471. *See, e.g.*, Shlomo Angel & Alejandro M. Blei, *The Productivity of American Cities: How Densification, Relocation, and Greater Mobility Sustain the Productive Advantage of Larger U.S. Metropolitan Labor Markets*, 51 CITIES 36, 36–37 (2016); Chang-Tai Hsieh & Enrico Moretti, *Housing Constraints and Spatial Misallocation*, 11 AM. ECON. J.: MACROECONOMICS 1, 2 (2019) (finding that high-

Lowering real estate commissions would reduce the transaction cost of moving and would therefore increase labor mobility. To get a rough sense of the size of this effect, we can approximate the current commission cost of moving for a typical worker. Recall that in 2022, the average single-family home cost 5.3 times median household income.⁴⁷² The average commission that year was 5.32%.⁴⁷³ This suggests that moving would entail a total commission cost equal to 28.2% of the worker's annual income.⁴⁷⁴ This is a sizable impediment.

To be sure, there are other social, time, and financial costs to moving. And even if steering were completely eliminated, real estate commissions would not go to zero. Still, bringing commissions down to the levels seen in some other developed economies could reduce the commission costs of moving by the equivalent of more than a month's salary.⁴⁷⁵ That could significantly increase labor market mobility, with all of its associated benefits.⁴⁷⁶

2. Agency Costs

Agency cost is one of the world's most ubiquitous and costly economic problems. There are whole fields of law, including both corporate law and securities law, in which reducing agency costs is a primary goal.⁴⁷⁷ Scholars

productivity cities such as New York and San Francisco's restrictions on new housing prevented workers from moving to these high-paying markets and reduced aggregate U.S. growth by 36.3% from 1964 to 2009).

472. Note that this figure is higher in many cities with high productivity. In 2009, the top three most productive cities were New York, San Jose, and San Francisco. The ratio of home price to median income in those cities in 2022 was 6.6, 12.1, and 10.8, respectively. See Chang, *supra* note 463; Hsieh & Moretti, *supra* note 471, at 17.

473. Velt, *supra* note 6.

474. Housing price of 5.3 times annual income multiplied by a 5.32% commission equals 28.2% of annual income. In this context, it makes little difference whether buyers or sellers bear the incidence of commissions, as the worker is both selling their existing home and buying a new one.

475. Suppose total commissions dropped to 3%. That would save the worker commissions equal to 12.3% of their annual salary, or approximately 1.5 months' worth.

476. See, e.g., Ben Dachis, Gilles Duranton & Matthew A. Turner, *The Effects of Land Transfer Taxes on Real Estate Markets: Evidence from a Natural Experiment in Toronto*, 12 J. ECON. GEOGRAPHY 327, 351–52 (2012); Lu Han, L. Rachel Ngai & Kevin D. Sheedy, *To Own or to Rent? The Effects of Transaction Taxes on Housing Markets 1–7* (June 2023) (unpublished discussion paper), <http://www.lse.ac.uk/CFM/assets/pdf/CFM-Discussion-Papers-2023/CFMDP2023-17-Paper.pdf> [https://perma.cc/54FG-3EH8]. But see MURTAZA HAIDER, AMAR ANWAR & CYNTHIA HOLMES, INST. ON MUN. FIN. & GOVERNANCE RSCH., *DID THE LAND TRANSFER TAX REDUCE HOUSING SALES IN TORONTO?* 15 (2016); Joel Slemrod, Caroline Weber & Hui Shan, *The Behavioral Response to Housing Transfer Taxes: Evidence from a Notched Change in D.C. Policy*, 100 J. URB. ECON. 137, 153 (2017).

477. See, e.g., STEPHEN M. BAINBRIDGE, *CORPORATION LAW AND ECONOMICS* 207 (2002); Jordan M. Barry & John William Hatfield, *Pills and Partisans: Understanding Takeover Defenses*, 160 U. PA. L. REV. 633, 638 (2012).

have spilled an ocean of ink analyzing agency costs from both theoretical and empirical perspectives.⁴⁷⁸

Unfortunately, studying agency cost empirically can be quite challenging. In many areas in which agency costs are economically significant, it can be challenging to determine if particular behavior is driven by agents pursuing their own interests or their principals' interests. For example, there is an extensive literature on corporate takeovers, and whether incumbent managers resist takeover attempts that would be good for shareholders because those takeovers would be bad for the managers themselves.⁴⁷⁹ Alternatively, it is also possible that managers are resisting takeovers as a negotiating tactic, in order to induce acquirers to raise their bids. If so, managers might believe that they are faithfully serving shareholders' interests.⁴⁸⁰ Similarly, investment advisers might steer their clients toward investment classes that pay higher fees, such as private equity funds, for self-interested reasons. Alternatively, they might sincerely believe that such investments offer the best returns, even after accounting for their higher fees.

A notable feature of our data is that we can measure steering directly by analyzing listings' Redfin page views. There is also little argument that commission-based steering is in buyers' interests; there is no obvious reason why buyers should prefer homes that pay high commissions over homes that pay lower commissions. Our data thus provides a particularly clean context in which to study agency costs.

Moreover, we note that the problem of steering extends beyond the residential real estate industry. Our analysis provides insight into these situations and helps inform potential regulatory responses. For example, in 2016, the Department of Labor issued a new regulation changing the standards that certain investment advisors must meet when serving clients.⁴⁸¹ The underlying concern was that some advisors were steering clients toward investments that paid the advisors higher commissions, which was good for

478. See, e.g., James S. Ang, Rebel A. Cole & James Wuh Lin, *Agency Costs and Ownership Structure*, 55 J. FIN. 81, 90–104 (2000); Jordan M. Barry, *Takeover Defenses: The Lay of the Land and Disputed Sign Posts*, in RESEARCH HANDBOOK ON MERGERS AND ACQUISITIONS 181, 190–95 (Claire A. Hill & Steven Davidoff Solomon eds., 2016); Lynne L. Dallas & Jordan M. Barry, *Long-Term Shareholders and Time-Phased Voting*, 40 DEL. J. CORP. L. 541, 553–76 (2016); Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305, 308–10 (1976).

479. See, e.g., Barry & Hatfield, *supra* note 477, at 686 (collecting sources).

480. Even if the managers are wrong, and shareholders would be better off if managers were more receptive to takeovers, that would not be an instance of managers prioritizing their own interests above the shareholders'. It would simply be managers misjudging the consequences of their actions.

481. The regulation was struck down by the Fifth Circuit. *Chamber of Com. of the U.S. v. U.S. Dep't of Labor*, 885 F.3d 360, 388 (5th Cir. 2018). The Securities and Exchange Commission then enacted Regulation Best Interest, which addresses much of the same concerns but takes a slightly different approach. See 17 C.F.R. § 240.15l-1 (2019).

the advisors but bad for their clients.⁴⁸² However, the regulation imposed billions of dollars of new recordkeeping and other compliance costs.⁴⁸³ Some commentators worried that these costs would ultimately be borne by investors, would render smaller broker-dealers unviable, and would encourage brokers to drop small investors, depriving them of advice altogether.⁴⁸⁴ Knowing how much investment advisors steer their clients can help policymakers determine whether regulation is merited, in what form, and in what circumstances.

3. Collaborative Industries, Norms, and Innovation

Real estate agency is a classic example of a Collaborative Industry: Agents compete for clients, but they must also work together to help clients consummate transactions. Our analysis provides insights regarding the ways in which firms in Collaborative Industries can band together and foster norms that are anticompetitive or otherwise socially detrimental.

For example, commission-based steering violates agents' duties to their clients. And yet, steering seems prevalent—and even accepted—in the industry.⁴⁸⁵ As we have noted earlier, steering reduces the benefits that any seller stands to reap from offering a lower commission. This reduces price competition among real estate agents, buoying commission rates within the industry. Indeed, this may be why steering is accepted within the industry.

Collaborative Industries can also foster norms that are problematic in other ways, such as discriminatory practices. For instance, some scholars have argued that civil rights laws are unnecessary in competitive markets, because firms have incentives to cater to all customers independent of their race, sex, gender, religion, or other protected characteristics.⁴⁸⁶ Moreover, if incumbent firms discriminate, new entrants will step in.⁴⁸⁷ This argument fails in the context of Collaborative Industries, because industry participants can use

482. Definition of the Term “Fiduciary”; Conflict of Interest Rule—Retirement Investment Advice, 81 Fed. Reg. 20946, 20951 (Apr. 8, 2016) (“The Department [of Labor] estimates that the final rule . . . will produce gains to IRA investors worth between \$33 billion and \$36 billion over [ten] years” from eliminating one of the types of adviser conflicts targeted by the rule.).

483. *Id.* (estimating \$16.1 billion in compliance costs over the following ten years).

484. See, e.g., Meghan Milloy, *DOL’s Proposed Fiduciary Rule: Not in the Best Interest of Investors*, AM. ACTION F. (Aug. 4, 2015), <https://www.americanactionforum.org/research/dols-proposed-fiduciary-rule-not-in-the-best-interest-of-investors> [<https://perma.cc/Q3J3-L4CR>]; Liz Skinner, *The DOL Fiduciary Rule Will Forever Change Financial Advice, and the Industry Has to Adapt*, INVESTMENTNEWS (June 9, 2016), <https://www.investmentnews.com/the-dol-fiduciary-rule-will-forever-change-financial-advice-and-the-industry-has-to-adapt-67507> (on file with the *Iowa Law Review*).

485. See *supra* Sections III.B.4.ii–v.

486. See generally RICHARD A. EPSTEIN, *FORBIDDEN GROUNDS: THE CASE AGAINST EMPLOYMENT DISCRIMINATION LAWS* (1992).

487. Richard A. Epstein, *The Problem with Antidiscrimination Laws*, HOOVER INST. (Apr. 13, 2015), <https://www.hoover.org/research/problem-antidiscrimination-laws> [<https://perma.cc/3GGE-H9KU>].

their interdependence to punish firms who violate discriminatory norms.⁴⁸⁸ New entrants are no silver bullet, as they are also susceptible to these same punishments. Indeed, real estate brokerage has long been characterized by low concentration and easy entry, yet numerous investigations have found evidence of racial steering, and there is a large scholarly literature on the topic.⁴⁸⁹ Indeed, NAR formally apologized for its historic role in promoting segregation and racial inequality.⁴⁹⁰ In NAR's own words, “[d]iscriminatory practices weren’t just tolerated for many years—they were baked into the association’s guiding principles for much of the 20th century,” including the Code of Ethics.⁴⁹¹

Collaborative Industries can also develop norms that make it harder for entrants to break into the industry. In particular, these norms may target maverick firms that do not abide by preexisting industry norms. The FTC and DOJ have recognized the important role that maverick firms play in fostering price competition.⁴⁹² Attacking mavericks can suppress price competition and reduce consumer welfare.

Similarly, entrants often bring new technologies and new ways of doing business. Hence, existing firms may view such entrants as challenges to the industry’s existing order. That can make these entrants prime targets for broad-based industry responses. Accordingly, Collaborative Industries may prove particularly resistant to innovative entrants—and thus to innovation itself.

We see evidence of both of these issues here. First, consider REX. It had a new brokerage model that threatened to reduce commission rates. It was thus an innovator and a potential price-cutter. Based on the alleged content of its seven hundred recorded calls with traditional agents, REX was subject to steering as a result.⁴⁹³ Second, consider iBuyers. They also represented a new model of real estate brokerage, built on new technology, that threatened

488. Barry et al., *supra* note 60, at 1146; cf. Andrew Koppelman, *Richard Epstein’s Imperfect Understanding of Antidiscrimination Law*, LAW & LIBERTY (Jan. 12, 2016), <https://lawliberty.org/forum/richard-epsteins-imperfect-understanding-of-antidiscrimination-law> [<https://perma.cc/8CND-BJ65>] (“[Epstein] left culture out of his model. . . . Economic models should take account of this reality.”).

489. See, e.g., sources cited *supra* note 55; see also Jennette Smith, *Century 21 Town & Country Faces Lawsuit Alleging Racial Steering*, CRAIN’S DETROIT BUS. (Jan. 25, 2007, 12:00 PM), <https://www.craindetroit.com/article/20070125/SUB/70125004/century-21-town-country-faces-lawsuit-alleging-racial-steering> (on file with the *Iowa Law Review*); Attorney General James Stops Discriminatory Practices at Long Island Real Estate Brokerage, N.Y. STATE ATT’Y GEN. (Mar. 15, 2023), <https://ag.ny.gov/press-release/2023/attorney-general-james-stops-discriminatory-practices-long-island-real-estate> [<https://perma.cc/N3FX-TGAV>] (“The investigation found that Coldwell Banker agents may have . . . directed homebuyers of color to homes in neighborhoods where residents predominantly belonged to communities of color, and otherwise engaged in biased behavior.”).

490. Wendy Cole, *An Apology from the National Association of Realtors*®, NAT’L ASS’N REALTORS (Nov. 18, 2020), <https://www.nar.realtor/magazine/real-estate-news/commentary/an-apology-from-the-national-association-of-realtors> [<https://perma.cc/9W7H-DZGS>].

491. *Id.*

492. MERGER GUIDELINES, *supra* note 61, at 9.

493. See *supra* Section III.B.4.v.

to take significant market share from incumbent firms.⁴⁹⁴ Our analysis indicates that iBuyer homes receive fewer Redfin page views and take longer to sell.⁴⁹⁵ These results should be interpreted with caution. They are consistent with steering, but also with iBuyer listings being less attractive to conventional homebuyers. This latter effect seems likely to be significant, and, unfortunately, we cannot disentangle that effect from the effects of steering. Nonetheless, our analysis suggests that iBuyers may face additional obstacles due to anti-iBuyer steering from traditional real estate agents.

In closing, we note two related points about the dynamics of Collaborative Industries. First, by virtue of their structure, Collaborative Industries are especially susceptible to collusive pricing and other anticompetitive behavior. Second, incumbents in Collaborative Industries are particularly well equipped to resist entrants who might disrupt anticompetitive behaviors. Because disruptive entry is unlikely to be successful in an industry that is particularly susceptible to collusion, regulatory oversight of Collaborative Industries is especially valuable and important. The phenomena we observe here offer insights for regulators as they consider other Collaborative Industries.⁴⁹⁶

CONCLUSION

For forty-five years, U.S. regulators have sought systematic evidence of commission-based steering in the U.S. residential real estate industry. We present compelling evidence that such steering is indeed a significant problem nationwide. Low-Commission listings receive less attention, take longer to sell, and face much greater risk of not selling at all. These results hold at the national level and within almost every geographic market we analyze. Moreover, we observe this steering behavior during a time period in which the residential real estate market strongly favored sellers, with demand outpacing supply in most markets across the country. This suggests that steering would be even more common in more neutral markets—and especially during buyers' markets—which allow buyer agents to be more selective about the properties that they show their clients.

The threat of steering induces sellers to offer higher commissions than they otherwise would, which keeps commission rates high. This raises costs for U.S. homeowners. Yet the system does not serve real estate agents as well as it might seem. As commission rates have held steady and home prices have risen, agents can earn more per sale—but higher earnings per sale have drawn

494. See *supra* notes 113–14 and accompanying text.

495. Analysis of whether iBuyer homes face greater risk of not selling at all is complicated by the fact that iBuyers are more likely to reduce their listings' asking prices than other sellers are. See *supra* notes 386–87.

496. See Barry et al., *supra* note 60 (discussing various Collaborative Industries); John William Hatfield, Scott Duke Kominers, Richard Lowery & Jordan M. Barry, *Collusion in Markets with Syndication*, 128 J. POL. ECON. 3779, 3780–85, 3798–802 (2020); cf. Jian Cai, Frederik Eidam, Anthony Saunders & Sascha Steffen, *Loan Syndication Structures and Price Collusion* 5–9, 20–25 (Mar. 13, 2018) (unpublished manuscript), <https://ssrn.com/abstract=3250817> [<https://perma.cc/L9ZG-XZ8H>] (analyzing syndicated lending as a Collaborative Industry).

more people into the industry. Each agent thus facilitates fewer transactions per year and must work harder to find clients. This dissipates the gains that agents would otherwise secure from higher commission rates.

The most promising way to end commission-based steering is to prohibit buyer agents—who are fiduciaries of their clients—from being compensated by sellers or their agents.⁴⁹⁷ Such policies would save U.S. homeowners tens of billions of dollars. They would end potentially wasteful competition among agents while increasing innovation and productivity in the residential real estate industry. They would make it easier for people to sell their homes, especially lower-income homeowners,⁴⁹⁸ which would help Americans pursue their most attractive job opportunities and strengthen the economy. Ending commission-based steering provides an excellent opportunity to increase equity and efficiency for the benefit of all.

497. See also Jordan M. Barry, Will Fried & John William Hatfield, *Systematic National Evidence of Steering by Real Estate Agents*, CPI ANTITRUST CHRON., Mar. 2024, at 10, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5104627 [<https://perma.cc/M4A7-LUD2>].

498. For a lower-income homeowner, their home is likely to be a larger portion of their net worth.