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ORIGINAL RESEARCH PAPER

Understanding popular support for market-restrictive housing regulation: a study of folk-economic reasoning in Germany

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Abstract

This paper examines how market context and supply-side market actors are associated with popular support for market-restrictive housing regulation in Germany. Using a quota-based vignette survey, we compare rental and sales contexts and private owners and real estate companies as supply-side actors. Preferences for market-restrictive housing regulation aimed at protecting the demand side of the market are stronger in rental than in sales contexts and stronger when the actor is framed as a real estate company rather than a private owner.Perceived power asymmetry and supply skepticism show related but more differentiated patterns, whereas zero-sum thinking is widespread but comparatively insensitive to the experimental frames. By focusing on Germany as a rental-oriented, regulation-heavy housing market, the study extends the predominantly U.S.-focused literature on housing-related folk-economic reasoning and clarifies which associations are especially salient under recurring rental dependence. From a business-economics perspective, the findings show how public moral-economic reasoning may matter indirectly for firms by strengthening political demand for market restrictions in a highly salient sector.

Keywords Housing regulation · Folk-economic reasoning · Supply skepticism · Power asymmetry · Zero-sum thinking

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1 Introduction

Numerous studies have documented striking differences between how economists and laypeople reason about economic issues. Compared to trained economists, laypeople tend to underestimate growth effects (Enste et al. 2009), take a more negative stance on free trade (Baron and Kemp 2004; Kemp 2007), and overlook the potential benefits of immigration (Jacob et al. 2011; Alesina et al. 2023). Following Rubin (2003), we use the term folk-economic reasoning to refer to the intuitive interpretive frameworks that non-experts employ when evaluating economic processes and policy interventions. These intuitive models need not be irrational: they may track salient frictions and fairness concerns, but they may also diverge from professional economic reasoning when immediate impressions crowd out longer-run adjustment effects.

Scholars attribute such judgments to the use of non-economic heuristics (Caplan 2002; Baron and Kemp 2004; Sapienza and Zingales 2013; Boyer and Petersen 2018; Andre et al. 2022). Economic judgments are often shaped by simplified mental models (Legrenzi et al. 1993; McCaffery and Baron 2006), negativity bias (Soroka et al. 2019), and short-termism (Dal Bó et al. 2018; Dana et al. 2024). Whereas economists typically focus on incentives and long-run adjustment processes, laypeople frequently evaluate economic policies in terms of perceived intentions, moral deservingness, and fairness considerations (Haferkamp et al. 2009; Jacob et al. 2011; Trujillo et al. 2020; Dato and Friehe 2025). Similar reasoning extends to assessments of different market actors and the legitimacy of their behavior. Empirical studies, for example, show that profit orientation and organizational size are associated with systematically different public judgments about firms (Bhattacharjee et al. 2017; Woolley et al. 2023; Freund et al. 2024).

Against this background, our study asks how public moral-economic reasoning is associated with support for housing regulation in a market that is both politically salient and institutionally distinctive. This question speaks directly to business economics because firms operate not only under prices and formal rules, but also in public environments in which some forms of regulation become more or less politically supportable. We therefore focus on regulatory preferences as one channel through which public reasoning may matter indirectly for firms, while stopping short of claiming direct effects on policy outcomes.

Germany is a particularly informative case for this purpose. Compared with the predominantly U.S.-focused literature, Germany combines a large rental sector, comparatively strong tenant protection, and high political salience of housing regulation. These features make it possible to examine housing-related folk-economic reasoning in a rental-oriented, regulation-heavy market and to assess whether patterns documented for the United States travel to a different institutional setting. Because housing affordability pressures and debates over restrictive interventions extend beyond Germany, the case is analytically informative even if straightforward generalization remains limited.

We examine public support for market-restrictive housing regulation aimed at protecting the demand side of the market. Recent studies identify housing as a domain in which beliefs about prices, profits, and market adjustment are especially salient because price formation is complex, supply responses are slow, and lived experiences of scarcity are emotionally charged (Monkkonen and Manville 2019; Müller and Gsottbauer 2021; He 2023). In Germany, rising housing costs in high-demand areas have repeatedly triggered calls for demand-side interventions such as rent control. A prominent example is Berlin's 2021 referendum, in which a majority of voters supported the expropriation of large real estate companies.

At the same time, the substance of the beliefs under study requires careful treatment. In housing markets marked by regulatory constraints, land scarcity, local bottlenecks, or weak competition, doubts about the price-moderating effects of additional supply or concerns about provider power need not be entirely unfounded. The key issue is therefore not to classify such beliefs as simply correct or incorrect, but to examine under which market frames they are more strongly associated with support for restrictive interventions. This is especially important in housing, where long supply lags and visible distributional conflict can make partial equilibria, bargaining asymmetries, and fairness concerns more salient than in many other markets.

Against this backdrop, we use a vignette-based survey design to examine how market context and the framing of the supply-side market actor are associated with support for market-restrictive housing regulation. More specifically, we compare rental and sales settings and private-owner and real-estate-company cues. The sales market is included as an analytic contrast condition: because Germany is rental-oriented and public debate centers mainly on rent regulation, comparing rental and sales contexts helps identify what is specifically associated with recurring tenant dependence rather than with housing transactions in general. We also examine whether these frames are associated with perceived power asymmetry, zero-sum thinking, and supply skepticism—that is, skepticism that additional supply will reduce prices or slow rent increases. In doing so, the paper extends the empirical study of supply skepticism beyond the predominantly U.S.-focused housing literature.

Previewing the results, regulatory preferences are stronger in rental than in sales contexts and stronger when the supply-side actor is framed as a real estate company rather than a private owner. Perceived power asymmetry is primarily associated with company cues, while supply skepticism is more strongly associated with rental contexts; zero-sum thinking is widespread but comparatively insensitive to the experimental frames. These findings sharpen the contribution relative to prior U.S.-centered evidence by showing which associations travel to a rental-oriented German context and which appear more context-dependent.

The study contributes to three strands of literature. First, it advances research in behavioral business economics by examining how folk-economic reasoning is associated with regulatory preferences in a politically salient market (Bhattacharjee and Dana 2024; Elmendorf et al. 2025). Rather than treating beliefs as isolated cognitive errors, the analysis follows work on folk-economic reasoning and policy attitudes (Caplan 2002; Boyer and Petersen 2018; Stantcheva 2022) and locates these intuitions in concrete market frames that shape fairness perceptions and moral evaluations (Monkkonen and Manville 2019; Müller and Gsottbauer 2021; He 2023).

Second, the paper contributes to the literature on housing market regulation (Pendall 1999; Hankinson 2018; Monkkonen and Manville 2019; Müller and Gsottbauer 2021; Been et al. 2023; Nall et al. 2024; Elmendorf et al. 2025) by showing how support for demand-side intervention varies across market frames and by extending the analysis of housing-related supply skepticism beyond the predominantly U.S.-focused context. Instead of focusing primarily on partisan or ideological explanations, the paper highlights the role of contextual cues and interpretive heuristics in shaping regulatory demand (Mense 2025).

Third, the paper contributes to a broader perspective in behavioral business ethics. While existing research has primarily examined moral intuitions in direct stakeholder relationships—such as those between firms, employees, or consumers—our study shifts attention to the general public as a regulatory audience (Jauernig et al. 2022, 2025; Pies 2023; Reese and Pies 2023, 2024; Bhattacharjee and Dana 2024; Schultz and Pies 2024; Krügel et al. 2025; Schultz et al. 2025). In highly regulated industries such as housing, public moral-economic reasoning may matter indirectly for firms by contributing to the political demand for intervention. By tracing how these perceptions are associated with regulatory preferences, the study provides micro-level evidence on one pathway through which firms' institutional environments may become more restrictive.

2 Literature

2.1 Folk-economic reasoning

In recent years, the study of folk-economic reasoning has gained substantial momentum.[1] New findings from evolutionary psychology and neuroscience have invigorated interest in lay economic concepts (Gigerenzer and Brighton 2009; Boyer and Petersen 2018; Cusimano et al. 2021). The term *folk economics* denotes the intuitions of individuals without formal training in economics—beliefs that underpin political attitudes and the appraisal of policy measures (Caplan 2002; Rubin 2003; Baron and Kemp 2004; Sapienza and Zingales 2013; Boyer and Petersen 2018; Pies 2023). Scholars have documented these intuitions across a wide array of topics, including

[1] Although the bulk of the literature on folk-economic reasoning has emerged only since the early 2000s, its intellectual lineage reaches back much further. Early observers of political economy were already attentive to systematic divergences between professional economic analysis and the ways in which economic issues are interpreted and discussed in the broader public. In a prescient essay, Newcomb (1893) emphasized that the founders of political economy viewed the discipline, among other things, as a means of engaging with such persistent gaps between expert reasoning and popular understanding—what would today be described as differences in folk-economic reasoning. He begins his two-step argument with the following observation: "The fact that there is a wide divergence between many of the practical conclusions of economic science, as laid down by its professional exponents, and the thought of the public at large, as reflected in current discussion and in legislation, is one with which all are familiar" (p. 375). In a second step, he reflects on the limited influence that economic reasoning exerted on public opinion in his time, arguing "that in the every-day applications of purely economic theory our public thought, our legislation, and even our popular economic nomenclature are what they would have been if Smith, Ricardo, and Mill had never lived, and if such a term as political economy had never been known" (p. 377).

immigration (Caplan 2002; Jacob et al. 2011; Alesina et al. 2023; Dana et al. 2024), minimum wages and executive compensation (Enste et al. 2009), commodification (Leider and Roth 2010; Leuker et al. 2021; Krügel et al. 2025), and perceptions of price fairness (Bolton et al. 2003; Koschate-Fischer and Wüllner 2017; Trujillo et al. 2020). Additional work explores public beliefs about free trade (Caplan 2002; Baron and Kemp 2004; Kemp 2007; Johnson et al. 2022; Stantcheva 2022), the effects of hypothetical macroeconomic shocks (Andre et al. 2022), and profit-seeking behavior (Kahneman et al. 1986; Aaker et al. 2010; Bhattacharjee et al. 2017; Freund et al. 2024).

Across these studies, a consistent pattern emerges: laypeople rely on heuristics that systematically diverge from professional economic reasoning (Caplan 2002; Baron and Kemp 2004; Sapienza and Zingales 2013; Boyer and Petersen 2018). Economists assess policy primarily by tracing its interdependent welfare effects for all market participants—including those indirectly affected—and by treating voluntary exchange as mutually beneficial (Haferkamp et al. 2009). In contrast, lay respondents invoke fairness heuristics when judging economic interventions (Baron and Kemp 2004; Haferkamp et al. 2009; Jacob et al. 2011; Müller and Renes 2021), deploy simplifying mental shortcuts to navigate market complexity (Legrenzi et al. 1993), and evaluate economic scenarios through the perceived motives of the actors involved (Campbell 1999; Bhattacharjee and Dana 2024; Nall et al. 2024; Dato and Friehe 2025).

Moreover, lay decision-makers typically concentrate on a policy's most immediate, first-order consequences, overlooking indirect or long-term effects even when these prove harmful (McCaffery and Baron 2006; Dal Bó et al. 2018; Dana et al. 2024). Pincione and Tesón (2006) call this the search for "visible-hand solutions", whereby economic rationality often requires "invisible-hand solutions" to effectively address a societal problem. Closely related is the well-documented propensity for "zero-sum thinking"—the belief that any gain for one group must come at the expense of others (Meegan 2010; Davidai and Ongis 2019; Johnson et al. 2022; Chinoy et al. 2025; Stutzer 2025). Rather than considering opportunities to expand the pie, many citizens treat overall wealth or employment as a fixed quantity, a view that helps explain widespread support for redistributive measures. Strikingly, this heuristic persists even when resources are explicitly described as unlimited (Meegan 2010). Drawing on evolutionary psychology, several authors argue that many of these intuitions are rooted in zero-sum experiences from small-scale, static societies. According to this line of reasoning, zero-sum reasoning was adaptive in ancestral environments of strict scarcity, but is ill-suited for modern growth economies (Caplan 2002; Rubin 2003; Meegan 2010; Boyer and Petersen 2018; Johnson et al. 2022; Davidai and Tepper 2023).

This zero-sum logic is consistent with a well-documented societal aversion to corporate profits, whereby prices are perceived as a zero-sum distribution of wealth between sellers and buyers, while the incentive effects of prices are neglected (Bhattacharjee and Dana 2024, p. 17). In this context, studies also show that citizens tend to systematically overestimate firms' margins (Bolton et al. 2003) and, moreover, equate higher profits with socially harmful behavior (Bhattacharjee et al. 2017). Freund et al.

(2024) show that larger companies in particular are perceived as less ethical.[2] In addition, the authors find that people interpret the pursuit of profit differently when confronted with large and small companies. Large companies are attributed with stronger profit-maximization motives, which in turn affects their subsequent assessment of ethicality (Freund et al. 2024, p. 935).

The extensive literature on such lay economic beliefs underscores the value of pinpointing policy domains where they are especially pronounced and of uncovering their psychological roots. Recent evidence indicates that the housing market offers a particularly fertile context for investigating folk economic beliefs (Müller and Gsottbauer 2021; Nall et al. 2024; Elmendorf et al. 2025).

2.2 Housing market beliefs

Housing costs have risen sharply across much of Europe, especially in metropolitan areas (Knoll et al. 2017; Deutsche Bundesbank 2019; Eurostat 2023; Sagner and Voigtländer 2024); a similar pattern is evident in many U.S. cities (Molloy 2020; McCue 2022). In Germany, multiple forces underpin this trend. On the demand side, labor-market dynamics, demographic change—most notably the proliferation of single-person households—and continued urbanization have fueled price growth in large cities (Kholodilin and Ulbricht 2014; Henger and Voigtländer 2019). On the supply side, construction has persistently lagged behind demand. Short- to medium-run supply rigidities arise from scarce developable land, protracted permitting procedures, multi-year construction timelines, increasingly stringent building codes and capacity constraints in the construction sector (Thomsen et al. 2020). Because access to affordable housing is tightly linked to educational and labor-market opportunities (Acolin and Wachter 2017; Hoxie et al. 2023), affordability has become one of the most contested policy issues in contemporary Europe. In Germany, the issue increasingly influences party programs and election campaigns (Koenig et al. 2025). There are structural differences between the housing markets in the United States and Germany. While the U.S. system is ownership-oriented, market-driven, and finance-led, Germany's housing system is rental-oriented, regulation-heavy, and stability-focused (Stahl and Struyk 2013). Despite these differences, the German context remains relevant for the United States and other international housing markets. A majority of Americans support rent control policies, with recent survey evidence indicating that over 80% favor caps on rent increases (Anderson 2024). Although only a limited number of states have implemented such policies, debates persist—particularly in high-pressure housing markets where affordability challenges and related social issues are most acute. Germany's regulation-intensive and rental-dominated system provides a useful setting to examine how individuals form preferences for housing policies. Therefore, understanding preference formation in Germany offers broader

[2] In contrast to this finding, Rai and Diermeier (2015) do not find a generally negative attitude towards companies compared to individuals. However, they do find that companies are seen as being able to 'think', but not to 'feel'; as a result, they evoke anger for their misconduct, but do not receive sympathy as victims (Rai and Diermeier 2015, p. 24).

insights into the political economy of housing regulation that extend to other contexts where housing affordability pressures are highly salient.

A substantial empirical literature shows that adding new housing either lowers prices outright or, at a minimum, attenuates further increases (Asquith et al. 2023; Greenaway-McGrevy 2023; Mense 2023, 2025; Been et al. 2023). Nevertheless, survey evidence indicates that 30–40% of Americans believe additional housing supply would raise—not reduce—prices and rents (Nall et al. 2024, pp. 6–7). Nall and colleagues demonstrate that this *supply skepticism* is widespread yet specific to housing: respondents predict price declines accurately in markets for cars, agricultural goods and labor. They also document a prevalent tendency to blame high housing costs on the alleged immorality of providers rather than on impersonal structural constraints (Nall et al. 2024, p. 40). An extensive literature on growth-control measures suggests that such regulations are adopted more frequently when homeowners expect capital gains from constrained supply (Richer 1995; Pendall 1999; Monkkonen and Manville 2019; Been et al. 2023), but supply skepticism offers an additional explanation for resistance to pro-development reforms (Nall et al. 2024; Elmendorf et al. 2025).

Profit aversion constitutes a second barrier to new construction. Monkkonen and Manville (2019) show that opposition to a development project rises by twenty percentage points when participants learn that the developer will earn a large profit.[3] Resistance appears rooted less in fears of personal loss than in antipathy toward others' gains (Monkkonen and Manville 2019, p. 1123). Moral opposition to profit may be especially intense in regions grappling with acute housing shortages, where earning money from construction is deemed inappropriate (Monkkonen and Manville 2019, p. 1129). This view persists despite broad evidence that profitability and social value creation are, on average, positively correlated (Orlitzky et al. 2003; Margolis et al. 2009; Allcott et al. 2023).

Fairness concerns add yet another layer of explanation. Experimental research demonstrates that lay judgments about market interventions may be heavily influenced by perceived deservingness and distributive justice (Müller and Renes 2021; He 2023; Bunel and Tovar 2024; Jauernig et al. 2025). In the housing domain, He (2023) finds that selling to a buyer who will occupy the dwelling is viewed as fairer than selling to the highest bidder, arguing that "moral opposition" to commercialization peaks where strong demand meets limited supply (p. 28). Pava et al. (1999) similarly describe the real estate market as characterized by *complex fairness*,[4] whereby large gains should not be obtained by imposing even small losses on others; the asymmetry between landlords' economic motives and tenants' multifaceted concerns generates distinctive ethical dilemmas (Pava et al. 1999, p. 91). In Germany, Müller and Gsottbauer (2021) show that support for rent control is driven primarily by fair-

[3] Monkkonen and Manville (2019, p. 1131) also analyze other influencing factors, such as concerns about congestion, neighborhood character, strained local services, and a frame about developer profit.

[4] Building on Kahneman et al. (1986), the authors broaden the norm of *simple fairness*—no actor should secure a gain by inflicting an equivalent loss on another—into a standard of *complex fairness*, which holds that no actor should reap a disproportionately large gain by imposing only a minor loss on another. They argue that this stricter principle is especially salient when one party is clearly superior in relevant attributes, such as wealth (Pava et al. 1999, p. 93).

ness considerations and self-interest, a finding that merits close attention in light of current market tightness.

Despite robust evidence that rent regulation raises median property values and rents (Molloy 2020), curtails new construction (Glaeser and Ward 2009) and slows permitting (Gyourko et al. 2008), public approval remains strong—particularly in Germany, where rent control is among the strictest in Europe (Kholodilin et al. 2018; Brandts et al. 2019; Müller and Gsottbauer 2021). A voluminous empirical literature documents its unintended consequences: higher rents for uncontrolled units (Caudill 1993; Diamond et al. 2019; Mense et al. 2023), misallocation of housing (Glaeser and Luttmer 2003; Kattenberg and Hassink 2017; Ahern and Giacoletti 2022), reductions in supply (Diamond et al. 2019; Barton 2020; Monras and Montalvo 2023), declines in quality (Sims 2007; Breidenbach et al. 2022; Forouzandeh 2023), and lower residential mobility with adverse labor-market effects (Ault et al. 1994; Svarer et al. 2005; Diamond et al. 2019; Öst and Johansson 2023).[5] Additional critiques highlight distortive long-run impacts (Arnott 1995; Jenkins 2009; Mora-Sanguinetti 2011; Andersson and Söderberg 2012; Kholodilin 2024).

Germany's continued support for such measures therefore requires an explanation. One possibility is that voters underestimate equilibrium effects because they neglect supply-side adjustments (Müller and Gsottbauer 2021, p. 4). Another possible explanation is that they interpret persistent supply rigidities and imperfect competition as evidence of market failure. If power asymmetries do exist, they naturally affect market outcomes. Therefore, the assumption that an expansion of supply will not lead to falling prices and that the resulting profits will not be passed on to consumers is not necessarily a fallacy. In markets where competing housing providers are excluded by artificially erected barriers, resulting in (quasi-)monopolistic supply, it is reasonable to assume that an expansion of supply may not lead to lower consumer prices. This perception of market concentration, particularly in metropolitan areas, may also be shaped by media coverage of dominant real estate corporations, such as "Deutsche Wohnen," often blamed for housing price increases in cities like Berlin. If the housing market operates under monopolistic conditions, increased regulation through antitrust policies could indeed enhance welfare. However, such measures target market structure and benefit consumers only indirectly. In contrast, the regulatory interventions typically advocated in public debates—and preferred by our German sample—focus on directly benefiting consumers, such as rent controls. A potential problem arises when the housing market is interpreted as strongly monopolistic without sufficient evidence or when policies like rent controls are favored despite their limitations in benefiting all consumers.

Against this backdrop, our study examines additional factors associated with public demand for regulation.

[5] A comprehensive overview of the accumulated empirical evidence on the impact of rent controls is provided by Kholodilin (2024).

3 Study design and research hypotheses

3.1 Study design

We conducted an online vignette study to examine how market context and the framing of the supply-side market actor are associated with regulatory preferences.[6] Vignette designs present respondents with concise, systematically varied scenarios and are well suited to eliciting comparative judgments across controlled frames (Atzmüller and Steiner 2010; Aguinis and Bradley 2014). Participants were randomly assigned to alternative versions of the vignette, allowing us to compare responses across experimental conditions. The average processing time was five minutes. Each scenario portrayed a supply-side market actor—either a private owner or a real estate company—who seeks to rent out or sell an apartment during a market upswing characterized by rising supply in the relevant segment. Respondents read exactly one vignette, combining one of two baseline scenarios with one of four treatment conditions described below.[7]

> We are interested in your assessment of the following scenario: Due to certain events, the supply of apartments drastically decreased. Homebuyers [Tenants] in Germany had major problems purchasing [renting] apartments. The problems have now largely been resolved. The market is recovering. The supply of apartments is increasing.

In each setting, respondents stated their level of agreement with the statement *"The rental market [sales market] should be heavily regulated in favor of tenants [buyers]"* on a Likert scale from 1 ("strongly disagree") to 5 ("strongly agree"). This item is our dependent variable, regulation preference, and captures general support for consumer-protective intervention rather than endorsement of any specific policy instrument. Respondents were randomly assigned to one of four treatment conditions (Table 1): (i) Private-Sale—a private owner sells an apartment; (ii) Company-Sale—a real estate firm sells an apartment; (iii) Private-Rental—a private owner rents out an

Table 1 Design of treatments

	Private owner	Real estate company
Sales market	Private-Sale	Company-Sale
Rental market	Private-Rental	Company-Rental

[6] Data were collected by the professional online survey panel provider Horizoom in Germany between late March and mid-April 2024. Horizoom operates an online access panel of registered respondents who voluntarily participate in surveys in exchange for points redeemable for rewards. Panel registration is free and requires email confirmation (double opt-in). The panel provider adheres to established professional standards for online survey research.

[7] The wording of the vignettes was intentionally kept parsimonious. By using abstract phrases such as 'due to certain events,' we aimed to focus participants' attention exclusively on the primary experimental manipulations—the type of market actor and the market context—rather than on specific situational triggers that might have introduced confounding emotional or political reactions. Furthermore, we deliberately described an upturn in the housing market in the vignette in order to avoid mixing regulatory preferences with crisis-related or recession-specific considerations. The portrayal as an upturn was intended to encourage participants to think carefully.

apartment; and (iv) Company-Rental—a real estate firm rents out an apartment. Varying the framing of the supply-side market actor allows us to compare responses to private owners and corporate providers, while the sales-market conditions serve as an analytic contrast to the rental-market conditions: because German public debate centers mainly on renting, this comparison helps isolate what is specifically associated with recurring tenant dependence rather than with housing transactions more generally. Beyond regulation preferences, the paper's empirical spine comprises three associated perception variables: perceived power asymmetry, supply skepticism, and zero-sum thinking. We operationalized these constructs as follows.

- Perceived power was measured with the item *"Ms Müller [the real estate company] is more powerful than a potential renter [buyer]"*, rated on a five-point Likert scale (1 = "strongly disagree," 5 = "strongly agree").[8]
- Supply skepticism was captured by eliciting respondents' expectations about price developments under conditions of increasing housing supply. Given the vignette's baseline assumption of an expansion in supply, respondents were asked: *"Ms. Müller [the real estate company] wants to sell [rent out] an apartment. What developments can be expected in the near future with regard to the purchase price [rent] of the apartment?"* Respondents then indicated their agreement with the statement *"The purchase price [rent] will decrease or rise less sharply."* Higher agreement indicates lower levels of supply skepticism.
- Zero-sum thinking was measured by asking participants to evaluate how the welfare of each party changed *as a result of* the transaction. Specifically, they were asked: *"How do you evaluate the current situation of the real estate company [private owner] and the buyer [renter] compared to the situation before the transaction?"* For each party, respondents indicated whether the situation was worse, unchanged, or better than before. We then constructed a binary measure of zero-sum thinking. Responses in which one party was evaluated as better off and the other as worse off were coded as zero-sum (1), whereas all other combinations (mutual gains, mutual losses, or no change for both parties) were coded as non-zero-sum (0).

In addition, we collected several exploratory variables capturing respondents' perceptions of the supply-side market actor and the market environment. These measures help contextualize the main results but are not part of the paper's main inferential spine. Perceived profit orientation was measured by respondents' agreement with the statement *"Ms. Müller [the real estate company] seeks the highest possible rental [sales] price"*. Assertiveness was measured as the perceived ability of the market actor to enforce its own interests. Respondents indicated their agreement with the statement: *"Suppose Ms. Müller [the real estate company] is interested in obtaining the highest possible rental [sales] price. Ms. Müller [the real estate company] can determine rental [sales] price according to her [its] interests"*. In addition, respondents assessed the degree of regulation in the relevant market by indicating their

[8] This measure captures a perceived imbalance in the transaction relationship rather than bargaining power in a strict economic sense.

agreement with the statement *"The rental [sales] market for apartments is highly regulated."* All perception-based exploratory variables were measured on five-point Likert scales ranging from 1 ("fully disagree") to 5 ("fully agree").

To capture respondents' underlying conceptions of economic value, we elicited both descriptive and normative beliefs about value formation. Specifically, respondents were asked: *"What determines the economic value of a good?"* and *"What should determine the economic value of a good?"* In both cases, respondents chose between labor time embodied in production and demand for the good. The two response options correspond to the labor theory of value (Marx 1867) and the subjective theory of value (Menger 1871), respectively. This binary operationalization is deliberately exploratory and simplifies substantially what contemporary economics would normally treat as a more complex interaction of costs, scarcity, demand, and institutional conditions. We therefore use the item only as a coarse indicator of lay value intuitions, not as a comprehensive measure of economic reasoning. Kahneman et al. (1986), for instance, have demonstrated that people perceive price increases based on increased labor costs as fairer than those based on demand increases. Finally, participants' political orientation and standard demographic variables were collected.

3.2 Hypotheses

We develop our expectations from the idea that support for housing-market regulation is associated not only with general political attitudes, but also with how specific market situations are interpreted. The empirical analysis centers on four outcome variables: regulation preference, perceived power asymmetry, supply skepticism, and zero-sum thinking. In the present setting, two cues are especially relevant: the type of supply-side market actor and the market context in which the transaction takes place. These cues are expected to be associated with the four outcomes by activating different perceptions of power, vulnerability, and market responsiveness.

A first mechanism concerns the type of supply-side market actor. Compared to private owners, real estate companies are more likely to be perceived as impersonal, profit-oriented, and structurally powerful. A strong profit orientation suggests that providers primarily strive to maximize returns rather than customers' needs. This can fuel expectations of a more limited willingness to compromise and a fear of exploitation. Higher structural power may imply that customers have fewer outside options and less bargaining leverage. Together, such cues can make market interactions appear less relational and more dominated by the interests of the provider, thereby heightening perceptions of power asymmetry. We therefore expect company cues to be associated with stronger support for market-restrictive housing regulation.

A second mechanism concerns market context. Rental markets are more likely than sales markets to activate perceptions of dependence, affordability pressure, and unequal bargaining positions. In rental markets, access to housing is likely to be experienced as more immediate and recurring as tenants must secure housing month by month under the restriction of limited alternatives and high costs of moving. This heightened dependence can trigger stronger concerns about affordability and vulnerability. By contrast, buyers in one-time purchases may be perceived as better resourced and less vulnerable to permanent renegotiations. For this reason, rental-market frames

are expected to be associated with stronger perceptions of asymmetry between providers and occupants. We therefore expect rental-market frames to be associated with stronger support for protective or market-restrictive housing regulation.

These market frames are also expected to matter for beliefs about housing-market adjustment. In housing markets, supply responses are often slow, locally constrained, and difficult to observe directly. Under such conditions, doubts about the price-moderating effects of additional construction need not simply reflect misunderstanding; they may also express intuitions about regulatory frictions, land scarcity, or weak pass-through. We therefore expect supply skepticism to be more pronounced in rental contexts and potentially also under company cues.

Accordingly, we formulate one core expectation for each outcome variable. Across outcomes, rental-market effects are expected to be stronger than sales-market effects because the sales conditions function primarily as an analytic contrast benchmark.

H1: Support for market-restrictive housing regulation is expected to be higher in rental than in sales contexts and higher when the supply-side market actor is framed as a real estate company rather than a private owner.
H2: Perceived power asymmetry is expected to be higher under a company cue than under a private-owner cue and, more conditionally, in rental than in sales contexts.
H3: Supply skepticism is expected to be stronger in rental than in sales contexts and may also be stronger under a company cue.
H4: Zero-sum thinking is expected to be more pronounced in rental than in sales contexts and may also be more pronounced under a company cue.

4 Results

The survey yielded 815 responses. Of these, 40 respondents (4.9%) dropped out early, 316 (38.8%) failed the attention check, and 16 (2.0%) passed the attention check but did not complete all mandatory items. Our preferred sample consists of the 443 respondents who passed the attention check and completed all mandatory items. Because the attention-check failure rate is substantial, this restriction raises a non-trivial sample-selection concern. We therefore treat the passed-only sample as our preferred specification rather than as the only evidentiary basis and report additional comparisons between respondents who passed and failed the attention check, as well as robustness models for the full sample (N = 775) and the failed-only subsample. The preferred sample remains quota-based with respect to age, gender, and federal state. Detailed descriptive statistics for the sample are reported in Appendix Table 4. Of these 443 participants, 50.1% were female. We recorded age by age group, with 18–29 (16.3%), 30–39 (14.9%), 40–49 (14.4%), 50–59 (21.7%), and 60 + (32.7%).

In terms of socio-economic background, the sample reflects a broad cross-section of the population. Educational attainment is heterogeneous, with a large share of respondents holding vocational qualifications (25.3%) or mid-level secondary degrees, and only a minority holding university degrees (Bachelor: 9.9%, Master/Diplom: 17.2%, Doctorate: 1.1%). Self-assessed economic knowledge is predom-

inantly low to moderate, with 35.2% reporting little knowledge (0–4) and 54.4% reporting medium levels (5–8), while only 10.4% consider their knowledge to be high. Political orientations are distributed across the three categories, with 50.1% identifying as progressive, 23.5% as conservative, and 26.4% as liberal. Taken together, these characteristics are consistent with the interpretation of the sample as consisting primarily of laypeople rather than economically specialized respondents. Because formal education is a broad background characteristic rather than a direct proxy for folk-economic reasoning, we use it mainly to characterize the sample, whereas the regression models rely on self-assessed economic skills as the more proximal competence-related control.

We first present descriptive comparisons across the four vignette conditions. Table 2 summarizes the outcomes by market context and supply-side market actor and thus shows the raw treatment contrasts before controls are introduced, corresponding to

Table 2 Outcomes by market context and supply-side market actor

	Sales market Mean (SD)	Rental market Mean (SD)	*p* value (Sales vs. Rental)
Panel A. Regulation preference ("The rental market [sales market] should be heavily regulated in favor of tenants [buyers].")			
Private	2.95 (1.32)	3.66 (1.26)	**<0.001**
Company	3.77 (1.17)	4.25 (1.09)	**<0.001**
p value (Private vs. Company)	**<0.001**	**<0.001**	
Panel B. Perceived power ("Ms Müller [the real estate company] is more powerful than a potential renter [buyer].")			
Private	3.01 (1.27)	3.68 (1.21)	**<0.001**
Company	4.16 (1.13)	4.29 (1.00)	**0.423**
p value (Private vs. Company)	**<0.001**	**<0.001**	
Panel C. Supply skepticism ("The purchase price [rent] will decrease or rise less sharply.")			
Private	3.33 (1.40)	2.44 (1.34)	**<0.001**
Company	2.70 (1.47)	2.28 (1.35)	**0.035**
p value (Private vs. Company)	**0.003**	**0.274**	
Panel D. Zero-sum thinking (% yes; one side evaluated as better off and the other as worse off)			
Private	55.0%	63.7%	**0.236**
Company	60.2%	72.2%	**0.085**
p value (Private vs. Company)	**0.558**	**0.191**	

Reported are means with standard deviations in parentheses (Panels A–C) and percentages (Panel D). Bold values indicate statistically significant differences at the 5% level. Because Panels A–C summarize ordinal responses, the means should be interpreted descriptively. *p* values are based on two-sided Wilcoxon rank-sum tests for group comparisons in Panels A–C and chi-square tests for differences in proportions in Panel D (df = 1). Lower values in Panel C indicate a greater degree of supply skepticism. N = 443

the four treatment conditions (Private-Sale, Company-Sale, Private-Rental, and Company-Rental). The distribution of responses across categories (agree, neutral, disagree) is reported in Appendix Table 6 and is consistent with the mean-based comparisons shown in Table 2. Table 2 compares outcomes (i) across supply-side market actors within each market context and (ii) across market contexts within each actor condition. Three broad patterns emerge that map directly onto the four core hypotheses.

First, consistent with H1, support for market-restrictive housing regulation is higher when the supply-side market actor is framed as a real estate company rather than a private owner, both in the rental market (4.25 vs. 3.66, $p<0.001$) and in the sales market (3.77 vs. 2.95, $p<0.001$) (Table 2, Panel A).

Second, consistent with H2, perceived power asymmetry is higher under company cues in both market contexts (sales: 4.16 vs. 3.01, $p<0.001$; rental: 4.29 vs. 3.68, $p<0.001$). Differences between rental and sales contexts are smaller and mainly driven by private actors (3.68 vs. 3.01, $p<0.001$), while they are not statistically significant for company actors (4.29 vs. 4.16, $p=0.423$) (Table 2, Panel B).

Third, consistent with H3, supply skepticism is stronger in rental than in sales contexts, especially for private actors (2.44 vs. 3.33, $p<0.001$), while differences between company and private actors are more limited (Table 2, Panel C).

For zero-sum thinking, no statistically significant differences emerge across the experimental conditions (Table 2, Panel D). Looking at zero-sum thinking more generally, 281 out of 443 participants (63.4%) perceive the respective transaction as a zero-sum game. This tendency is evenly distributed across political orientations, with similar shares of zero-sum thinkers among progressives (64.4%), conservatives (64.4%), and liberals (60.7%).

Supplementary analyses (see Appendix Table 5) show that company cues are associated with higher attributed profit orientation and assertiveness, consistent with the interpretation that company frames activate perceptions of structural power and stronger provider-side self-interest, thereby reinforcing the mechanisms underlying the main results. Because the conceptions-of-value item is more exploratory and theoretically coarser than the paper's core constructs, we do not treat it as part of the main empirical investigation.

Table 3 reports ordinal logistic regression models for regulation preferences, perceived power, and supply skepticism, and a binary logistic model for zero-sum thinking. All models include the central treatment variables (the framing of the supply-side market actor and market context) as well as a common set of controls (age and income as categorical variables, gender, self-assessed economic skills, ideological orientation, and region); see Table 3 notes for variable coding. We use self-assessed economic skills rather than formal education in the main specification because the former is conceptually closer to the paper's focal mechanism—folk-economic reasoning—whereas education is already reported in the descriptive sample profile above. This common control set keeps the main table parsimonious while addressing the most plausible observed confounders, and the appendix reports additional models with a thinner control structure for comparison. To account for multiple testing across model specifications, p values are adjusted using the Holm–Bonferroni procedure. Since income was a voluntary item and 32 observations are missing, all regression models are based on 411 observations instead of 443. The reference categories are 18–29 years for age and monthly income below €1000.

Table 3 Ordinal logistic models (1–3) and binary logistic model (4)

Predictors	(1) Regulation preference		(2) Power perception		(3) Supply skepticism		(4) Zero-sum thinking (yes = 1)	
	Odds ratios	CI	Odds ratios	CI	Odds ratios	CI	Odds ratios	CI
Actor (Company = 1)	3.247***	[2.192; 4.809]	4.267***	[2.863; 6.358]	0.594**	[0.399; 0.886]	1.461	[0.940; 2.271]
Market (Rental market = 1)	2.692***	[1.783; 4.065]	1.812**	[1.223; 2.684]	0.438***	[0.302; 0.636]	1.646*	[1.056; 2.567]
Gender (Male = 1)	0.927	[0.605; 1.420]	0.808	[0.513; 1.271]	0.993	[0.658; 1.498]	1.078	[0.670; 1.736]
Age 30–39	1.337	[0.627; 2.851]	1.499	[0.747; 3.009]	0.460*	[0.221; 0.958]	1.627	[0.681; 3.888]
Age 40–49	0.974	[0.505; 1.876]	1.120	[0.579; 2.167]	0.665	[0.363; 1.219]	1.923	[0.840; 4.400]
Age 50–59	0.824	[0.423; 1.606]	1.141	[0.576; 2.260]	0.659	[0.386; 1.124]	0.626	[0.299; 1.308]
Age 60+	0.938	[0.480; 1.831]	1.724	[0.932; 3.188]	0.572*	[0.335; 0.978]	0.799	[0.406; 1.576]
Income €1000–<€2,000	0.891	[0.441; 1.801]	0.515*	[0.270; 0.985]	1.576	[0.787; 3.155]	1.393	[0.657; 2.951]
Income €2,000–<€3,000	0.714	[0.372; 1.370]	0.574	[0.285; 1.157]	0.922	[0.459; 1.853]	1.102	[0.501; 2.423]
Income €3,000–<€5,000	0.683	[0.349; 1.338]	0.624	[0.321; 1.211]	1.345	[0.655; 2.760]	1.269	[0.567; 2.840]
Income≥€5,000	0.465	[0.166; 1.302]	0.861	[0.389; 1.903]	1.081	[0.453; 2.578]	1.461	[0.570; 3.743]
Economic skills	0.906	[0.820; 1.001]	1.073	[0.971; 1.186]	1.013	[0.921; 1.113]	0.903*	[0.816; 0.999]
Ideology: values	0.832	[0.491; 1.409]	0.845	[0.517; 1.380]	1.204	[0.723; 2.004]	1.092	[0.621; 1.919]
Ideology: rights	0.594*	[0.363; 0.973]	0.842	[0.518; 1.369]	1.252	[0.792; 1.978]	0.778	[0.460; 1.314]
East (East Germany = 1)	1.263	[0.736; 2.168]	0.735	[0.439; 1.230]	0.695	[0.431; 1.119]	0.944	[0.518; 1.722]
Observations	411		411		411		411	
Nagelkerke R^2	0.195		0.185		0.099		0.089	

Odds ratios reported. 95% CI in brackets. Ordinal models: *p* values from bootstrap (1000 replications). Binary model: HC3 robust SEs. *$p<0.05$; **$p<0.01$; ***$p<0.001$. All binary predictors are coded as dummy variables. The variable Actor is coded as 1 for real estate companies and 0 for private owners. Market is coded as 1 for rental markets and 0 for sales markets. Gender is coded as 1 for male respondents and 0 otherwise. Region is coded as 1 for East Germany (including Berlin) and 0 otherwise

The regression results broadly corroborate the descriptive patterns and are consistent with the explicit hypotheses. For regulatory preferences, both the company cue and the rental-market context remain strongly positively associated with stronger support for market-restrictive regulation, in line with H1. For perceived power asymmetry, the company cue remains the clearest predictor, while the rental-context effect is smaller but still statistically significant, consistent with H2. For supply skepticism, the rental-market context remains the more robust association, with company

cues also showing a statistically significant negative association, as anticipated in H3. By contrast, zero-sum thinking shows no consistent pattern across the experimental frames. While the regression results suggest a weak positive association with the rental-market condition, this effect is not reflected in the bivariate comparisons and should therefore be interpreted with caution.

Across the included control variables, most coefficients are not statistically significant. This is also true for political ideology, which we include as a potentially relevant background characteristic but do not treat as a core explanatory mechanism in this paper. A small number of exceptions emerge, including lower perceived power among respondents with lower income and weak associations of age and economic skills with supply skepticism and zero-sum thinking. These effects are substantively limited and do not alter the interpretation of the main treatment variables. Additional mediation analyses examining the role of perceived power and supply skepticism are reported in Appendix Table 11.

Given the substantial attention-check failure rate, we examine potential selection effects in two ways. First, Appendix Table 12 shows that respondents who passed and failed the attention check are very similar in age, gender, and region; we do not observe strong compositional differences along these margins. Second, Appendix Tables 7, 8 and 9 show that the main treatment patterns are stable across the preferred passed-only sample, the full sample, and the failed-only subsample: coefficient signs are unchanged and effect sizes remain broadly comparable, although statistical precision is predictably lower in the failed-only subsample. These checks do not eliminate all data-quality concerns, but they reduce the risk that the reported findings are artifacts of the attention-check restriction. Additional robustness checks using binary outcome specifications and a simplified income measure yield substantively similar results and do not alter the main conclusions (see Appendix Table 10).

Taken together, the descriptive comparisons, multivariate models, and robustness checks point to a consistent core pattern: rental contexts and company cues are most strongly associated with support for regulation, company cues primarily track perceived power asymmetry, rental contexts most clearly track supply skepticism, and zero-sum thinking appears broad but only weakly frame-responsive.

5 Discussion

5.1 Market contexts, supply-side market actors, and regulatory preferences: implications of folk-economic reasoning

This section interprets the main empirical patterns and relates them to the paper's broader argument about public support for market-restrictive housing regulation. Rather than reading the observed beliefs as categorically correct or incorrect, the discussion treats them as context-sensitive interpretations of housing-market situations. In housing markets characterized by high salience, local bottlenecks, ongoing dependency relationships, and difficult-to-observe supply responses, such interpretations may be understandable. The central question is therefore not whether respondents "misunderstand" markets in the abstract, but how specific market frames are associated with regulatory preferences, perceived power asymmetry, and supply skepticism

in the German housing context. The sales conditions are best read as a contrast benchmark: they make visible which associations are specific to recurring rental dependence rather than to housing transactions as such. Beyond Germany, these findings have relevance for other housing markets, including the U.S., where debates over housing affordability are widespread.

A first integrated pattern concerns the company cue. Across the experiment, support for regulation is higher when the supply-side market actor is framed as a real estate company rather than a private owner, and this pattern is consistent with the interpretation that company cues activate perceptions of structural power, stronger profit orientation, and weaker relational embeddedness. The accompanying results on perceived power asymmetry reinforce this reading. Corporate actors are not simply evaluated more negatively in the abstract; rather, they appear to be associated with a market situation that respondents interpret as more asymmetrical and less easily disciplined through ordinary market interaction. In this sense, the findings are better read as evidence on the framing of structural power than as evidence of a simple anti-corporate bias.

A second integrated pattern concerns rental-market framing and supply skepticism. Support for regulation is higher in rental than in sales contexts, and supply skepticism is likewise more pronounced in rental settings. This pattern should not be interpreted too quickly as simple economic error. Rental markets make dependency, affordability pressure, and unequal bargaining positions especially salient; they also make supply-side adjustment appear slower, more indirect, and less credible from the perspective of ordinary respondents. Under such conditions, doubts about the price-moderating effects of additional construction may reflect understandable intuitions about market frictions, weak pass-through, or persistent scarcity, even if the resulting preferences for restrictive interventions do not by themselves identify effective remedies. The findings therefore suggest that rental markets are not merely viewed as markets characterized by greater affordability pressures, but as institutional environments in which market coordination itself is seen as less reliable in delivering acceptable outcomes.

By contrast, zero-sum thinking appears to be widespread in the sample but comparatively insensitive to the experimental frames. This suggests that zero-sum interpretations may function less as a context-specific reaction to housing-market cues and more as a broader background disposition through which transactions are understood. Taken together, the results therefore do not point to a single unified folk-economic response. They point instead to several partially connected interpretive patterns: company cues are associated above all with stronger perceptions of asymmetry, rental contexts with stronger regulatory demand and stronger supply skepticism, and zero-sum thinking with a more diffuse background orientation.

From a business-economics perspective, the main implication is not that public beliefs directly determine regulation, but that public moral-economic reasoning may contribute to the political demand for market restrictions in highly salient sectors. For firms operating in such environments, public reasoning can therefore matter indirectly, through the institutional constraints that become politically supportable. The present findings do not justify strong causal claims about regulatory change, investment behavior, or stakeholder responses. They do, however, indicate that firms in regulated housing markets face not only economic fundamentals and legal rules, but also a public

interpretive environment in which corporate actor cues and rental-market frames are associated with stronger support for intervention.

Future research should examine more directly how public housing beliefs become linked to support for specific regulatory instruments and under which institutional conditions these links weaken or intensify. Particularly important would be designs that distinguish more sharply between general market skepticism, fairness concerns, self-interest tied to individuals' position in the housing market (e.g., tenants and landlords, as well as buyers and sellers), and beliefs about supply responsiveness. Comparative studies across cities and countries could further clarify which observed patterns are specific to Germany's rental-oriented context and which travel more broadly across tight housing markets.

A further research priority concerns communication and learning. Information treatments, explainer formats, or message-source manipulations may help identify when beliefs about housing markets are revised, when they persist, and whether changes in beliefs translate into changes in regulatory preferences. Such designs would be especially useful for distinguishing durable background orientations from more frame-responsive judgments.

5.2 Scope and limitations

The findings of this study should be interpreted in light of both their analytical scope and their empirical limitations. While the vignette experiment provides systematic evidence on how market contexts and market actors are associated with regulatory preferences and related perceptions, several boundaries of interpretation merit consideration.

1. Scope of cognitive drivers: The analysis focuses on a limited set of folk-economic perceptions that prior research identifies as particularly relevant for housing markets. Other belief systems—such as generalized market skepticism, moral entitlement frames (e.g., "housing as a right"), or risk aversion—may also influence regulatory preferences. Moreover, cognitive frames may interact with material self-interest, as support for regulation often aligns with individuals' housing-market positions. Participants' roles (e.g., tenant, landlord, buyer, seller) and exposure to region-specific regulatory regimes may systematically shape attitudes toward intervention. While the present data do not allow for a detailed analysis of these factors, future research could incorporate such heterogeneity explicitly.
2. Methodological constraints: The vignette design captures stated preferences rather than observed behavior. Complementary approaches—such as panel surveys, field experiments, or behavioral trace data—would help assess whether beliefs of this kind are associated with voting behavior or broader political support for specific policy instruments. In addition, the use of single-item measures limits reliability. Zero-sum thinking, for instance, was operationalized through a stylized categorical item that necessarily abstracts from more nuanced distributive beliefs. The dependent variable captures general support for regulation in favor of tenants or buyers rather than preferences for specific policy instruments. Accordingly, we refrain from interpreting the measure as endorsement of any particular regulatory tool. The intentional abstraction of the vignette language represents a trade-off between internal and external validity. Moreover, the use of a specific persona ("Ms. Müller") for private actors may have triggered gender-related associations. We used a fixed name to standardize the vignette

and preserve realism, but stereotype-based inferences may nonetheless have affected responses in ways whose direction cannot be identified ex ante. Future designs could therefore rely on neutral descriptors or experimentally vary gender cues. Finally, participants may have interpreted the vignettes in light of their own views of current housing-market conditions despite the experimental framing of a market upturn.

3. Model complexity: The analysis focuses on the main effects of market actor and market context. Although interactions are explored in the Appendix, more fine-grained moderating influences are not examined in detail.
4. Contextual generalizability: The data derive from the German housing market, which is characterized by a large rental sector and comparatively strong tenant protections. Whether the observed perception patterns generalize to other institutional environments remains an open question. Cross-national and cross-regional comparisons would help identify boundary conditions and institutional moderators.

6 Conclusion

This study examined how housing-market frames are associated with popular support for market-restrictive housing regulation in Germany. Using a vignette design, we find that regulatory preferences are stronger in rental than in sales contexts and stronger when the supply-side market actor is framed as a real estate company rather than a private owner. Perceived power asymmetry and supply skepticism show related but more differentiated patterns, whereas zero-sum thinking appears to be widespread but comparatively insensitive to the experimental frames.

These findings underscore the contextual nature of folk-economic reasoning in housing markets. Rather than treating the beliefs under investigation as categorical errors, the analysis suggests that they may reflect understandable interpretations of dependency, local bottlenecks, or weakly visible supply adjustment in a highly salient market. The relevant issue is therefore how such interpretations become linked to stronger support for restrictive interventions.

From a business-economics perspective, the paper's contribution is to show that public moral-economic reasoning may matter indirectly for firms by contributing to political demand for market restrictions in regulated sectors. Germany provides an analytically informative case because it combines a large rental sector, comparatively strong tenant protection, and high political salience of housing-market regulation. At the same time, these features limit straightforward extrapolation, so the paper contributes most directly by extending the study of housing-related folk-economic reasoning beyond the predominantly U.S.-focused context and by clarifying how market framing and regulatory preferences are linked in a rental-oriented housing market.

Appendix

The Appendix provides additional descriptive statistics, detailed regression results, and robustness checks supporting the main analysis.

See Tables 4, 5, 6, 7, 8, 9, 10, 11 and 12.

Table 4 Descriptive statistics

Variable	Category	%
Age group	18–29	16.3
	30–39	14.9
	40–49	14.4
	50–59	21.7
	60+	32.7
Gender	Male	49.7
	Female	50.1
	Nonbinary	0.2
Region	Baden-Württemberg	11.5
	Bavaria	16.5
	Berlin	4.1
	Brandenburg	2.5
	Bremen	1.1
	Hamburg	2.0
	Hesse	9.3
	Mecklenburg-Western Pomerania	2.0
	Lower Saxony	10.6
	North Rhine-Westphalia	23.7
	Rhineland-Palatinate	4.1
	Saarland	1.4
	Saxony	4.5
	Saxony-Anhalt	2.7
	Schleswig–Holstein	2.0
	Thuringia	2.0
Education	No high school diploma	0.0
	Still in school	0.4
	Polytechnic high school	0.9
	Secondary school diploma	5.0
	Polytechnic high school (10th grade, GDR)	20.5
	Technical college entrance qualification	7.7
	High school diploma	11.3
	Vocational training	25.3
	Bachelor	9.9
	Diplom/Master	17.2
	Doctorate	1.1
	Not specified	0.7
Income (monthly)	<€1000	14.0
	€1000–<€2000	22.4
	€2000–<€3000	21.4
	€3000–<€5000	24.2
	≥€5000	10.8
	Not specified	7.2
Political views	Progressive	50.1
	Conservative	23.5
	Liberal	26.4
Economic skills	None to little (1–4)	35.2

Table 4 (continued)

Variable	Category	%
(self-assessment)	Medium (5–8)	54.4
	Distinctive (9–11)	10.4

Percentages reported. Totals may not sum to 100 due to rounding. Economic skills were measured by asking respondents to assess their knowledge in economics on a scale ranging from 0 ("no knowledge") to 11 ("extensive knowledge"). To capture ideological orientation, we applied the "three languages of politics" typology (Kling 2017, pp. 4–5). Respondents read three statement pairs and selected the one that best reflected their own outlook: Progressive frame: "My heroes are people who have stood up for the under-privileged. The people I cannot stand are the people who are indifferent to the oppression of women, minorities, and the poor." Conservative frame: "My heroes are people who have stood up for Western values. The people I cannot stand are the people who are indifferent to the assault on the moral virtues and traditions that are the foundation for our civilization." Liberal frame: "My heroes are people who have stood up for individual rights. The people I cannot stand are the people who are indifferent to government taking away people's ability to make their own choices." N = 443

Table 5 Attributed actor characteristics and perceived degree of regulation by market context and supply-side market actor

	Sales market Mean (SD)	Rental market Mean (SD)	*p* value (Sales vs. Rental)
Panel A. Attributed profit interest ("Ms. Müller [the real estate company] seeks the highest possible rental [sales] price.")			
Private	4.60 (0.83)	4.10 (1.19)	**< 0.001**
Company	4.57 (1.00)	4.61 (0.83)	**0.533**
p value (Private vs. Company)	**0.582**	**< 0.001**	
Panel B. Perceived assertiveness ("Ms. Müller [the real estate company] can determine rental [sales] price according to its interests.")			
Private	3.06 (1.14)	3.10 (1.30)	0.715
Company	3.85 (1.09)	3.48 (1.31)	0.050
p value (Private vs. Company)	**< 0.001**	**0.017**	
Panel C. Perceived degree of regulation ("The rental [sales] market for apartments is highly regulated.")			
Private	2.34 (1.22)	2.34 (1.16)	0.402
Company	2.44 (1.17)	2.65 (1.29)	0.076
p value (Private vs. Company)	0.861	0.210	

Reported are means with standard deviations in parentheses. Bold values indicate statistically significant differences at the 5% level. Because Panels A–C summarize ordinal responses, the means should be interpreted descriptively. *p* values are based on two-sided Wilcoxon rank-sum tests. *p* values in the last column compare sales and rental markets within actor condition; *p* values in the bottom row compare company and private-provider conditions within market context. N = 443

Table 6 Response distributions by treatment group

Outcome	Treatment	Disagree (1–2)	Neutral (3)	Agree (4–5)
Regulation preference	Company-Rental	7.9	13.5	78.6
	Company-Sale	11.8	30.1	58.1
	Private-Rental	14.5	28.2	57.3
	Private-Sale	35.0	32.0	33.0
Power perception	Company-Rental	6.3	12.7	81.0
	Company-Sale	9.7	10.8	79.6
	Private-Rental	18.5	21.0	60.5
	Private-Sale	35.0	31.0	34.0
Supply skepticism	Company-Rental	60.3	19.8	19.8
	Company-Sale	47.3	17.2	35.5
	Private-Rental	56.5	16.9	26.6
	Private-Sale	28.0	21.0	51.0

Percentages reported. Disagree = categories 1–2, Neutral = category 3, Agree = categories 4–5. For supply skepticism, lower values indicate greater skepticism; hence, "Disagree" reflects more skeptical responses. These distributions complement the mean-based comparisons reported in Table 2. N = 443

Table 7 Baseline regression models: full sample

Predictors	(1) Regulation preference		(2) Power perception		(3) Supply skepticism		(4) Zero-sum thinking (yes = 1)	
	Odds ratios	CI	Odds ratios	CI	Odds ratios	CI	Odds ratios	CI
Actor (Company = 1)	2.225***	[1.708; 2.898]	4.787***	[3.602; 6.362]	0.631***	[0.484; 0.822]	1.079	[0.807; 1.441]
Market (Rental market = 1)	1.965***	[1.515; 2.548]	1.808***	[1.398; 2.338]	0.494***	[0.381; 0.641]	1.202	[0.900; 1.606]
Observations	775		775		775		775	
Nagelkerke R^2	0.082		0.185		0.057		0.003	

Odds ratios reported. 95% CI in brackets. Ordinal models: *p* values from bootstrap (1000 replications). Binary model: HC3 robust SEs. *$p<0.05$; **$p<0.01$; ***$p<0.001$

Table 8 Regression models with limited controls: full sample

Predictors	(1) Regulation preference		(2) Power perception		(3) Supply skepticism		(4) Zero-sum thinking (yes = 1)	
	Odds ratios	CI	Odds ratios	CI	Odds ratios	CI	Odds ratios	CI
Actor (Company = 1)	2.231***	[1.704; 2.921]	4.936***	[3.703; 6.580]	0.623***	[0.479; 0.810]	1.055	[0.785; 1.417]
Market (Rental market = 1)	1.995***	[1.531; 2.600]	1.777***	[1.364; 2.315]	0.483***	[0.374; 0.624]	1.210	[0.902; 1.624]
Gender (Male = 1)	0.589***	[0.453; 0.764]	0.884	[0.677; 1.154]	1.015	[0.776; 1.327]	0.945	[0.702; 1.274]
Age 30–39	1.098	[0.684; 1.761]	1.291	[0.816; 2.044]	0.806	[0.507; 1.279]	1.050	[0.615; 1.792]
Age 40–49	0.764	[0.503; 1.161]	0.904	[0.587; 1.393]	0.787	[0.515; 1.202]	1.001	[0.583; 1.718]
Age 50–59	0.780	[0.540; 1.126]	1.018	[0.654; 1.584]	0.794	[0.542; 1.163]	0.677	[0.415; 1.104]
Age 60 +	0.837	[0.572; 1.224]	1.264	[0.872; 1.833]	0.692*	[0.473; 1.010]	0.702	[0.444; 1.109]
East (East Germany = 1)	1.345	[0.950; 1.904]	0.815	[0.581; 1.144]	0.792	[0.568; 1.104]	1.107	[0.760; 1.612]
Observations	775		775		775		775	
Nagelkerke R^2	0.112		0.192		0.064		0.017	

Odds ratios reported. 95% CI in brackets. Ordinal models: *p* values from bootstrap (1000 replications). Binary model: HC3 robust SEs. Due to data availability, the specification is restricted to controls for gender, age, and region. *$p<0.05$; **$p<0.01$; ***$p<0.001$. All binary predictors are coded as dummy variables. Actor is coded as 1 for real estate companies and 0 for private owners. Market is coded as 1 for rental markets and 0 for sales markets. Gender is coded as 1 for male respondents and 0 otherwise. Region is coded as 1 for East Germany (including Berlin) and 0 otherwise

Table 9 Regression models with limited controls: failed sample

Predictors	(1) Regulation preference		(2) Power perception		(3) Supply skepticism		(4) Zero-sum thinking (yes = 1)	
	Odds ratios	CI	Odds ratios	CI	Odds ratios	CI	Odds ratios	CI
Actor (Company = 1)	1.687*	[1.116; 2.552]	6.770***	[4.229; 10.838]	0.656*	[0.437; 0.986]	0.778	[0.487; 1.244]
Market (Rental market = 1)	1.518*	[1.013; 2.273]	1.649*	[1.093; 2.488]	0.646*	[0.425; 0.982]	0.781	[0.489; 1.245]
Gender (Male = 1)	0.482***	[0.319; 0.727]	0.855	[0.561; 1.304]	1.124	[0.744; 1.699]	1.085	[0.680; 1.731]
Age 30–39	0.892	[0.417; 1.905]	1.110	[0.526; 2.342]	1.457	[0.687; 3.088]	0.490	[0.210; 1.145]
Age 40–49	0.554	[0.261; 1.175]	0.770	[0.375; 1.584]	0.976	[0.477; 1.998]	0.497	[0.210; 1.177]
Age 50–59	0.618	[0.321; 1.189]	0.759	[0.392; 1.469]	1.410	[0.732; 2.716]	0.510	[0.226; 1.150]
Age 60+	0.653	[0.350; 1.220]	1.049	[0.575; 1.913]	0.830	[0.438; 1.574]	0.465*	[0.218; 0.993]
East (East Germany = 1)	1.565	[0.902; 2.713]	0.811	[0.476; 1.382]	0.983	[0.588; 1.642]	1.238	[0.694; 2.207]
Observations	316		316		316		316	
Nagelkerke R^2	0.088		0.238		0.045		0.033	

Odds ratios reported. 95% CI in brackets. Ordinal models: *p* values from bootstrap (1000 replications). Binary model: HC3 robust SEs. Due to data availability, the specification is restricted to controls for gender, age, and origin. *$p<0.05$; **$p<0.01$; ***$p<0.001$. All binary predictors are coded as dummy variables. Actor is coded as 1 for real estate companies and 0 for private owners. Market is coded as 1 for rental markets and 0 for sales markets. Gender is coded as 1 for male respondents and 0 otherwise. Region is coded as 1 for East Germany (including Berlin) and 0 otherwise

Table 10 Robustness check: binary outcome specification and simplified income measure

Predictors	(1)		(2)		(3)		(4)	
	Regulation preference (binary)		Power perception (binary)		Supply skepticism (binary)		Zero-sum thinking (yes = 1)	
	Odds ratios	CI	Odds ratios	CI	Odds ratios	CI	Odds ratios	CI
Actor (Company = 1)	3.009***	[1.911; 4.739]	4.480***	[2.804; 7.156]	0.588*	[0.373; 0.925]	1.477	[0.956; 2.282]
Market (Rental market = 1)	3.065***	[1.939; 4.844]	1.829*	[1.145; 2.923]	0.397***	[0.254; 0.622]	1.643*	[1.059; 2.550]
Gender (Male = 1)	0.889	[0.550; 1.438]	0.909	[0.555; 1.488]	0.976	[0.607; 1.569]	1.066	[0.667; 1.704]
Age 30–39	1.001	[0.408; 2.455]	1.190	[0.487; 2.909]	0.483	[0.209; 1.113]	1.689	[0.731; 3.905]
Age 40–49	0.837	[0.369; 1.900]	0.807	[0.345; 1.889]	0.674	[0.325; 1.396]	1.992	[0.896; 4.428]
Age 50–59	0.625	[0.283; 1.380]	0.805	[0.363; 1.785]	0.634	[0.310; 1.296]	0.657	[0.325; 1.330]
Age 60+	0.714	[0.337; 1.516]	1.401	[0.685; 2.866]	0.551	[0.285; 1.064]	0.869	[0.454; 1.662]
Income (above median = 1)	0.682	[0.412; 1.131]	0.859	[0.508; 1.450]	1.125	[0.676; 1.871]	1.127	[0.685; 1.853]
Economic skills	0.923	[0.827; 1.030]	1.040	[0.936; 1.156]	0.997	[0.899; 1.104]	0.908	[0.822; 1.003]
Ideology: values	0.762	[0.430; 1.350]	1.110	[0.628; 1.962]	1.415	[0.814; 2.459]	1.078	[0.618; 1.882]
Ideology: rights	0.499*	[0.292; 0.854]	0.870	[0.498; 1.519]	0.902	[0.523; 1.556]	0.771	[0.461; 1.289]
East (East Germany = 1)	1.385	[0.760; 2.527]	0.717	[0.386; 1.333]	0.642	[0.349; 1.181]	0.926	[0.515; 1.667]
Observations	411		411		411		411	
Nagelkerke R^2	0.21		0.188		0.11		0.085	

Odds ratios reported. 95% CI in brackets. All models are estimated as binary logistic regressions with HC3 robust SEs. Outcomes for regulation preference, power perception, and supply skepticism are coded as 1 for agree/strongly agree (4–5) and 0 otherwise (1–3). Income is coded as 1 for values above the sample median and 0 otherwise (median split). *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. All binary predictors are coded as dummy variables. Actor is coded as 1 for real estate companies and 0 for private owners. Market is coded as 1 for rental markets and 0 for sales markets. Gender is coded as 1 for male respondents and 0 otherwise. Region is coded as 1 for East Germany (including Berlin) and 0 otherwise

Table 11 Mediation of supply-side actor and market context via power perception and supply skepticism

Effect	Estimate	SE	z	*p* value	Std. Effect
Panel A. Power perception as mediator					
Actor (Company = 1) → Power perception	0.798	0.105	7.56	< .001	0.365
Market (Rental market = 1) → Power perception	0.363	0.106	3.43	< .001	0.165
Power perception → Regulation preference	0.273	0.047	5.85	< .001	0.275
Indirect effect (Actor)	0.218	0.046	4.70	< .001	0.101
Indirect effect (Market)	0.099	0.033	2.97	.003	0.045
Direct effect (Actor)	0.413	0.109	3.78	< .001	0.191
Direct effect (Market)	0.439	0.105	4.20	< .001	0.201
Panel B. Supply skepticism as mediator					
Actor (Company = 1) → Supply skepticism	−0.285	0.102	−2.78	.005	−0.137
Market (Rental market = 1) → Supply skepticism	−0.491	0.103	−4.76	< .001	−0.234
Supply skepticism → Regulation preference	−0.160	0.049	−3.30	< .001	−0.154
Indirect effect (Actor)	0.046	0.021	2.15	.032	0.021
Indirect effect (Market)	0.079	0.029	2.73	.006	0.036
Direct effect (Actor)	0.585	0.105	5.56	< .001	0.270
Direct effect (Market)	0.459	0.107	4.28	< .001	0.210

The table reports mediation analyses examining whether power perception (Panel A) and supply skepticism (Panel B) are associated with the relationship between market framing (actor and market context) and regulation preference. Estimates from ordered structural equation models (SEM) estimated with WLSMV. All mediators and outcomes are measured on five-point ordinal scales. Indirect effects represent the mediated association of actor and market context via the respective mediator. Standardized effects correspond to Std.all. All binary predictors are coded as dummy variables. Actor is coded as 1 for real estate companies and 0 for private owners. Market is coded as 1 for rental markets and 0 for sales markets. N = 443

Table 12 Comparison of sociodemographic characteristics by attention check status

Age group	Passed AC (%)	Failed AC (%)
Panel A. Age		
18–29	16.3	15.8
30–39	14.9	17.4
40–49	14.4	16.1
50–59	21.7	20.6
60+	32.7	30.1
Gender	Passed AC (%)	Failed AC (%)
Panel B. Gender		
Male	49.7	50.6
Female	50.1	49.4
Nonbinary	0.2	0.0
Federal state	Passed AC (%)	Failed AC (%)
Panel C. Region		
Baden-Württemberg	11.5	9.5
Bavaria	16.5	14.2
Berlin	4.1	6.0
Brandenburg	2.5	3.2
Bremen	1.1	0.6
Hamburg	2.0	1.3
Hesse	9.3	10.1
Mecklenburg-Western Pomerania	2.0	2.8
Lower Saxony	10.6	10.1
North Rhine-Westphalia	23.7	24.7
Rhineland-Palatinate	4.1	4.1
Saarland	1.4	0.9
Saxony	4.5	4.1
Saxony-Anhalt	2.7	3.5
Schleswig–Holstein	2.0	1.9
Thuringia	2.0	2.8

Percentages reported. Age group, gender, and region were measured prior to the attention check (AC). Percentages are based on 443 respondents who passed the attention check and completed all mandatory items and 316 respondents who failed the attention check.

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Declarations

Competing interests The authors have no relevant financial or non-financial interests to disclose.

Ethical approval The research was approved by the institutional review board of the German Association for Experimental Economic Research e.V.

Human and animal rights Statement Regarding Research Involving Human Participants and/or Animals: The investigation was conducted according to the principles expressed in the Declaration of Helsinki.

Informed consent Written consent was obtained from all participants prior to the study.

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References

Aaker J, Vohs KD, Mogilner C (2010) Nonprofits are seen as warm and for-profits ascompetent: firm stereotypes matter. J Consum Res 37(2):224–237

Acolin A, Wachter S (2017) Opportunity and housing access. Cityscape 19(1):135–150

Aguinis H, Bradley KJ (2014) Best practice recommendations for designing and implementing experimental vignette methodology studies. Organ Res Methods 17(4):351–371

Ahern KR, Giacoletti M (2022) Robbing Peter to Pay Paul? The Redistribution of Wealth Caused by Rent Control. National Bureau of Economic Research

Alesina A, Miano A, Stantcheva S (2023) Immigration and redistribution. Rev Econ Stud 90(1):1–39

Allcott H, Montanari G, Ozaltun B, Tan B (2023) An economic view of corporate social impact (No. w31803). National Bureau of Economic Research

Anderson D (2024) Roughly 4 in 5 U.S. Residents Believe There Should Be Caps on Rent Hikes: Survey. Redfin News. https://www.redfin.com/news/survey-homeowners-renters-support-rent-hikes/. Accessed on 30 March 2026

Andersson R, Söderberg B (2012) Elimination of rent control in the Swedish rental housing market: why and how? J Hous Res 21(2):159–181

Andre P, Pizzinelli C, Roth C, Wohlfart J (2022) Subjective models of the macroeconomy: evidence from experts and representative samples. Rev Econ Stud 89(6):2958–2991

Arnott R (1995) Time for revisionism on rent control? J Econ Perspect 9(1):99–120

Asquith BJ, Mast E, Reed D (2023) Local effects of large new apartment buildings in low-income areas. Rev Econ Stat 105(2):359–375

Atzmüller C, Steiner PM (2010) Experimental vignette studies in survey research. Methodology 6:128–138

Ault RW, Jackson JD, Saba RP (1994) The effect of long-term rent control on tenant mobility. J Urban Econ 35(2):140–158

Baron J, Kemp S (2004) Support for trade restrictions, attitudes, and understanding of comparative advantage. J Econ Psychol 25(5):565–580

Barton SE (2020) The success and failure of strong rent control in the city of Berkeley, 1978 to 1995. In: Rent Control in North America and Four European Countries. Routledge, pp 88–109

Been V, Ellen IG, O'Regan KM (2023) Supply skepticism revisited. NYU Law and Economics Research Paper Forthcoming

Bhattacharjee A, Dana J (2024) Lay economic reasoning: an integrative review and call to action. Consum Psychol Rev 7(1):3–39

Bhattacharjee A, Dana J, Baron J (2017) Anti-profit beliefs: how people neglect the societal benefits of profit. J Pers Soc Psychol 113(5):671

Bolton LE, Warlop L, Alba JW (2003) Consumer perceptions of price (un) fairness. J Consum Res 29(4):474–491

Boyer P, Petersen MB (2018) Folk-economic beliefs: an evolutionary cognitive model. Behav Brain Sci 41:e158
Brandts J, Busom I, Lopez-Mayán C, Panadés J (2019) Dispelling misconceived beliefs about rent control: insights from a field and a laboratory experiment. Available at SSRN 3384538.
Breidenbach P, Eilers L, Fries J (2022) Temporal dynamics of rent regulations–the case of the German rent control. Reg Sci Urban Econ 92:103737
Deutsche Bundesbank (2019) Indikatorensystem zum deutschen Wohnimmobilienmarkt, Frankfurt a. M., https://www.bundesbank.de/resource/blob/615188/fd4c74c42ab45eaf1fb60a9b569b80c2/mL/indikatorensystem-zum-deutschen-wohnungsmarkt-data.pdf. Last Accessed 12 Dec 2024
Bunel M, Tovar É (2024) Fairness of the first-come, first-served rule on the rental housing market: insights from a hypothetical survey experiment. J Housing Econ. https://doi.org/10.1016/j.jhe.2024.102004
Campbell MC (1999) Pricing strategy & practice "Why did you do that?" The important role of inferred motive in perceptions of price fairness. J Prod Brand Manag 8(2):145–153
Caplan B (2002) Systematically biased beliefs about economics: robust evidence of judgemental anomalies from the survey of Americans and economists on the economy. Econ J 112:433–458
Caudill SB (1993) Estimating the costs of partial-coverage rent controls: a stochastic frontier approach. Rev Econ Stat. https://doi.org/10.2307/2110030
Chinoy S, Nunn N, Sequeira S, Stantcheva S (2025) Zero-sum thinking and the roots of US political differences. National Bureau of Economic Research
Cusimano C, Zorrilla NC, Danks D, Lombrozo T (2021) Reason-based constraint in theory of mind. In: Proceedings of the annual meeting of the cognitive science society, vol 43, no 43
Dal Bó E, Dal Bó P, Eyster E (2018) The demand for bad policy when voters underappreciate equilibrium effects. Rev Econ Stud 85(2):964–998
Dana J, Newman GE, Voichek G (2024) Efficiency neglect: why people are pessimistic about the effects of increasing population. J Exp Psychol Gen 153(5):1213
Dato S, Friehe T (2025) Punishment for intentions or outcomes: the role of gender and social norms. Soc Choice Welfare. https://doi.org/10.1007/s00355-025-01596-9
Davidai S, Ongis M (2019) The politics of zero-sum thinking: the relationship between political ideology and the belief that life is a zero-sum game. Sci Adv 5(12):eaay3761
Davidai S, Tepper SJ (2023) The psychology of zero-sum beliefs. Nat Rev Psychol 2(8):472–482
Diamond R, McQuade T, Qian F (2019) The effects of rent control expansion on tenants, landlords, and inequality: evidence from San Francisco. Am Econ Rev 109(9):3365–3394
Elmendorf CS, Nall C, Oklobdzija S (2025) The folk economics of housing. J Econ Perspect 39(3):45–66
Enste DH, Haferkamp A, Fetchenhauer D (2009) Unterschiede im Denken zwischen Ökonomen und Laien–Erklärungsansätze zur Verbesserung der wirtschaftspolitischen Beratung. Persp Wirtschaftsp 10(1):60–78
Eurostat (2023) Housing in Europe—2023 edition. https://ec.europa.eu/eurostat/web/interactive-publications/housing-2023#about-this-publication. Last Accessed 11 Nov 2024
Forouzandeh R (2023) Rent control and Tenants' benefits: stability or affordability? Evidence from New York City. Evidence from New York City (July 31, 2023)
Freund A, Flynn F, O'Connor K (2024) Big is bad: stereotypes about organizational size, profit-seeking, and corporate ethicality. Pers Soc Psychol Bull 50(6):924–941
Gigerenzer G, Brighton H (2009) Homo heuristicus: why biased minds make better inferences. Top Cogn Sci 1(1):107–143
Glaeser EL, Luttmer EFP (2003) The misallocation of housing under rent control. Am Econ Rev 93(4):1027–1046
Glaeser EL, Ward BA (2009) The causes and consequences of land use regulation: evidence from Greater Boston. J Urban Econ 65(3):265–278
Greenaway-McGrevy R (2023) Can zoning reform reduce housing costs? Evidence from rents in Auckland. Economic Policy Centre. https://www.auckland.ac.nz/content/dam/uoa/auckland/business/about/our-research/research-institutesand-centres/Economic-Policy-Centre--EPC-/WP016, 203.
Gyourko J, Saiz A, Summers A (2008) A new measure of the local regulatory environment for housing markets: the Wharton Residential Land Use Regulatory Index. Urban Stud 45(3):693–729
Haferkamp A, Fetchenhauer D, Belschak F, Enste D (2009) Efficiency versus fairness: the evaluation of labor market policies by economists and laypeople. J Econ Psychol 30(4):527–539
Hankinson M (2018) When do renters behave like homeowners? High rent, price anxiety, and NIMBYism. Am Polit Sci Rev 112(3):473–493
He A (2023) How Americans evaluate fairness in the housing market: an experimental approach

Henger RM, Voigtländer M (2019) Ist der Wohnungsbau auf dem richtigen Weg? Aktuelle Ergebnisse des IW-Wohnungsbedarfsmodells (No. 28/2019). IW-Report
Hoxie PG, Shoag D, Veuger S (2023) Moving to density: half a century of housing costs and wage premia from Queens to King Salmon. J Public Econ 222:104906
Jacob R, Christandl F, Fetchenhauer D (2011) Economic experts or laypeople? How teachers and journalists judge trade and immigration policies. J Econ Psychol 32(5):662–671
Jauernig J, Uhl M, Pies I (2025) When Goliath sells to David: explaining price gouging perceptions through power. Public Choice 203(1):139–155
Jauernig J, Brea S, Pies I, Uhl M (2022) The perception of market power in land transactions
Jenkins B (2009) Rent control: do economists agree? Econ J Watch 6(1):73
Johnson SG, Zhang J, Keil FC (2022) Win–win denial: the psychological underpinnings of zero-sum thinking. J Exp Psychol Gen 151(2):455
Kahneman D, Knetsch JL, Thaler R (1986) Fairness as a constraint on profit seeking: entitlements in the market. Am Econ Rev 76(4):728–741
Kattenberg MA, Hassink WH (2017) Who moves out of social housing? The effect of rent control on housing tenure choice. Economist 165(1):43–66
Kemp S (2007) Psychology and opposition to free trade. World Trade Rev 6(1):25–44
Kholodilin KA (2024) Rent control effects through the lens of empirical research: an almost complete review of the literature. J Housing Econ. https://doi.org/10.1016/j.jhe.2024.101983
Kholodilin KA, Ulbricht D (2014) Mietpreisbremse: Wohnungsmarktregulierung bringt mehr Schaden als Nutzen. DIW Wochenber 81(15):319–327
Kholodilin KA, Weber JP, Sebastian S (2018) Die Mietwohnungsmarktregulierung der letzten 100 Jahre im internationalen Vergleich. DIW Wochenber 85(45):971–982
Kling A (2017) The three languages of politics: talking across the political divides. Cato Institute
Knoll K, Schularick M, Steger T (2017) No price like home: global house prices, 1870–2012. Am Econ Rev 107(2):331–353
Koenig P, Kohl S, Reisenbichler A (2025) Housing and party politics in Germany and its Länder: the new social question? Ger Polit Soc 43(2):59–86
Koschate-Fischer N, Wüllner K (2017) New developments in behavioral pricing research. J Bus Econ 87(6):809–875
Krügel S, Uhl M, Pies I (2025) The folk ethics of commodification: an empirical investigation into moral attitudes against market transactions. J Bus Ethics 1–23.
Legrenzi P, Girotto V, Johnson-Laird PN (1993) Focussing in reasoning and decision making. Cognition 49(1–2):37–66
Leider S, Roth AE (2010) Kidneys for sale: who disapproves, and why? Am J Transplant 10(5):1221–1227
Leuker C, Samartzidis L, Hertwig R (2021) What makes a market transaction morally repugnant? Cognition 212:104644
Margolis JD, Elfenbein HA, Walsh JP (2009) Does it pay to be good... and does it matter? A meta-analysis of the relationship between corporate social and financial performance. And does it matter
Marx K (1867) Das Kapital. Buch I: Der Produktionsprocess des Kapitals. Hamburg. In: Deutsches Textarchiv. https://www.deutschestextarchiv.de/marx_kapital01_1867. Last Access 21 Nov 2024
McCaffery EJ, Baron J (2006) Isolation effects and the neglect of indirect effects of fiscal policies. J Behav Decis Mak 19(4):289–302
McCue D (2022) As low-cost units become increasingly scarce, low- and moderate-income renters are losing access to many neighborhoods. The Joint Center for Housing Studies of Harvard University. https://www.jchs.harvard.edu/blog/low-cost-units-become-increasingly-scarce-low-and-moderate-income-renters-are-losing-access. Last Access 13 Dec 2024
Meegan DV (2010) Zero-sum bias: perceived competition despite unlimited resources. Front Psychol 1:191
Menger C (1871) Principles of economics. https://mises.org/library/book/principles-economics. Last Access 12 Dec 2024
Mense A (2025) The impact of new housing supply on the distribution of rents. J Polit Econ Macroeconomics 3(1):1–42
Mense A, Michelsen C, Kholodilin KA (2023) Rent control, market segmentation, and misallocation: causal evidence from a large-scale policy intervention. J Urban Econ 134:103513
Mense A (2023) Secondary housing supply (No. 6/2023). IAB-discussion paper. https://www.econstor.eu/bitstream/10419/224569/1/vfs-2020-pid-39662.pdf. Last Access 21 Nov 2024

Molloy R (2020) The effect of housing supply regulation on housing affordability: a review. Reg Sci Urban Econ 80(C):1–5
Monkkonen P, Manville M (2019) Opposition to development or opposition to developers? Experimental evidence on attitudes toward new housing. J Urban Aff 41(8):1123–1141
Monras J, Montalvo JG (2023) The effect of second-generation rent controls: new evidence from Catalonia. Working Paper Series 2023–28, Federal Reserve Bank of San Francisco
Mora-Sanguinetti JS (2011) The regulation of residential tenancy markets in post-war Western Europe: an economic analysis1. Eur J Comp Econ 8(1):47
Müller D, Gsottbauer E (2021) Why do people demand rent control? Working Papers in Economics and Statistics, No. 2021–20, University of Innsbruck, Research Platform Empirical and Experimental Economics (eeecon), Innsbruck
Müller D, Renes S (2021) Fairness views and political preferences: evidence from a large and heterogeneous sample. Soc Choice Welfare 56(4):679–711
Nall C, Elmendorf CS, Oklobdzija S (2024) Folk economics and the persistence of political opposition to new housing (April 29, 2024). Available at SSRN https://ssrn.com/abstract=4266459 or https://doi.org/10.2139/ssrn.4266459
Newcomb S (1893) The problem of economic education. Q J Econ 7(4):375–399
Orlitzky M, Schmidt FL, Rynes SL (2003) Corporate social and financial performance: a meta-analysis. Organ Stud 24(3):403–441
Öst CE, Johansson P (2023) The consequences of the Swedish rent control system on labor income: evidence from a randomized apartment lottery. J Public Econ 221:104864
Pava ML, Pava J, Hochman J (1999) Fairness as a constraint in the real estate market. J Bus Ethics 19:91–97
Pendall R (1999) Opposition to housing: NIMBY and beyond. Urban Aff Rev 35(1):112–136
Pies I (2023) Folk economics and folk ethics as problems of moral reasoning—ordonomic inspirations for business ethics, Discussions Paper Nr. 2023–13, Halle, online version: https://wcms.itz.uni-halle.de/download.php?down=65973&elem=3505981. Last Access 21 Nov 2024
Pincione G, Tesón FR (2006) Rational choice and democratic deliberation: a theory of discourse failure. Cambridge University Press, Cambridge
Rai TS, Diermeier D (2015) Corporations are cyborgs: organizations elicit anger but not sympathy when they can think but cannot feel. Organ Behav Hum Decis Process 126:18–26
Reese A, Pies I (2023) The morality of kidney sales: when caring for the seller's dignity has moral costs. Bioeth Inq 20:139–152
Reese A, Pies I (2024) Solidarity among strangers during natural disasters: how economic insights may improve our understanding of virtues. J Ethics 28:361–381
Richer J (1995) Explaining the vote for slow growth. Public Choice 82(3):207–223
Rubin PH (2003) Folk economics. South Econ J 70(1):157–171
Sagner P, Voigtländer M (2024) IW-Wohnindex: Mietpreissteigerungen setzten sich fort, Kaufpreise stabiler (No. 26/2024). IW-Report
Sapienza P, Zingales L (2013) Economic experts versus average Americans. Am Econ Rev 103(3):636–642
Schultz FC, Pies I (2024) The circular economy growth machine. A critical perspective on "post-growth" and "pro-growth" circularity approaches. J Ind Ecol 28:17–24
Schultz FC, Valentinov V, Pies I (2025) The stakeholder business case for circular economy: an ordonomic approach for developing a circular economy business case by stakeholder governance. J Ind Ecol 29:1279–1292
Sims DP (2007) Out of control: what can we learn from the end of Massachusetts rent control? J Urban Econ 61(1):129–151
Soroka S, Fournier P, Nir L (2019) Cross-national evidence of a negativity bias in psychophysiological reactions to news. Proc Natl Acad Sci USA 116(38):18888–18892
Stahl K, Struyk RJ (eds) (2013) US and West German housing markets: comparative economic analyses. Springer
Stantcheva S (2022) Understanding of trade (No. w30040). National Bureau of Economic Research
Stutzer A (2025) Zero-sum beliefs, political views, and life satisfaction in a rich country. WWZ Working Paper 2025/02, Center of Business and Economics (WWZ), University of Basel
Svarer M, Rosholm M, Munch JR (2005) Rent control and unemployment duration. J Public Econ 89(11–12):2165–2181
Thomsen SL, Vogt D, Brausewetter L (2020) Mietwohnungsknappheit in Deutschland: Ursachen, Instrumente, Implikationen. Wirtschaftsdienst 100(6):461–467

Trujillo AJ, Karmarkar T, Alexander C, Padula W, Greene J, Anderson G (2020) Fairness in drug prices: do economists think differently from the public? Health Econ Policy Law 15(1):18–29
Woolley K, Kupor D, Liu PJ (2023) Does company size shape product quality inferences? Larger companies make better high-tech products, but smaller companies make better low-tech products. J Mark Res 60(3):425–448

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