

Article

Nefarious Algorithms: Rent-Fixing via Algorithmic Collusion and the Role of Intentionality in the Pursuit of Class Monopoly Rent

Allison J. Zimmerman and Matthew B. Anderson *

Urban and Regional Planning Program, Department of Political Science & Public Policy, Eastern Washington University, 607 E. Riverside Avenue, Spokane, WA 99202, USA; azimmerman7@ewu.edu

* Correspondence: manderson22@ewu.edu

Abstract

Housing unaffordability and widening socio-spatial polarization continue to pervade US cities today. Driving this phenomenon, in part, is the increasing investment of rental housing stock by corporate landowners who rely on firms like RealPage, Inc. to employ advanced algorithms that determine the highest possible rent to charge tenants. RealPage is currently being sued for violating US antitrust law. This study critically examines the evidence against and in defense of RealPage to identify the firm's practices as a technologically advanced strategy of pursuing class monopoly rent (CMR). In the process, the study brings scholarship on platform real estate into closer dialogue with land rent theory and criticism of existing antitrust law in the US to establish a more nuanced understanding of intentionality. We argue that the treatment of intentionality by the existing legal framework is limited in terms of recognizing the myriad ways in which CMR is realized in the rental housing sector, especially in contexts where CMR is realized without entailing explicit collusive intent among the market players. Our analysis also reveals that RealPage's algorithmically enabled pursuit of CMR potentially widens the scale of impact across submarket boundaries that might not have otherwise been possible, exacerbating existing and entrenched patterns of socio-economic segregation and socio-spatial inequality. We conclude by discussing the implications of the study's findings for policy with an emphasis on the kinds of policies intended (or designed) to suppress the pursuit of CMR in the first place.



Academic Editor: Shade T. Shuttles

Received: 14 April 2025

Revised: 16 July 2025

Accepted: 10 August 2025

Published: 12 August 2025

Citation: Zimmerman, A.J.; Anderson, M.B. Nefarious Algorithms: Rent-Fixing via Algorithmic Collusion and the Role of Intentionality in the Pursuit of Class Monopoly Rent. *Urban Sci.* **2025**, *9*, 315. <https://doi.org/10.3390/urbansci9080315>

Copyright: © 2025 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Keywords: justice; inequality; antitrust; housing; capitalism; scale

1. Introduction

Housing unaffordability continues to pervade many metropolitan regions across the United States (US) and beyond [1,2]. Driving this phenomenon are myriad forces, including the increasing financialization and assetization of land and property [3–5] and investment of low-income rental housing stock by corporate landowners since the Great Recession [5–9]. Associated with this has been worsening housing precarity for lower-income populations in conjunction with the globalized closing of rent gaps [10,11], core attributes of an emergent “hyper-polarized city” marked by exacerbating degrees of socio-spatial inequality and injustice across US cities [12]. Here, soaring housing prices vis-à-vis comparatively stagnant average wages have contributed to acute shortages of housing available for low-wage households amid rising rates of evictions and homelessness [13,14].

An emergent concern related to this corporate investment in the US rental market has been the growing reliance (particularly among corporate landowners) on advanced

algorithms to set rental prices. One of the chief concerns rests on how algorithms can potentially facilitate collusive activity among market players behind what Ezrachi and Stucke [15] identify as the “façade of virtual competition.” Following Ezrachi and Stucke, the increasing deployment of algorithms equipped with artificial intelligence (AI) capacities to set prices has the potential to render the age of “executives expressly collud[ing] in smoke-filled hotel rooms” obsolete [15] (pp. 36–37). In short, algorithms can potentially circumvent the need for market actors to meet in-person for the purpose of establishing a cartel in a situation that might otherwise look like a free and competitive market.

Recognition of this emergent “digitalized hand of the market” has stimulated notable debate among experimental economists and legal scholars about the legitimacy of this concern over “autonomous algorithmic collusion,” the specific conditions and complexities related to the ability of algorithms to generate forms of tacit collusion among their users [16–19], and the implications for regulatory policy and socio-spatial justice [20]. We argue that the recent federal lawsuit filed against RealPage, Inc. in the US has shed considerable clarity on these questions, with the answer being *yes*, that algorithms can indeed be deployed to the tune of both tacit and explicit forms of collusion that yield anti-competitive effects.

RealPage offers a “revenue management” program to landlords who contract with them. As clients of RealPage, landlords hand over real-time pricing and supply levels for every unit and floor plan they have in their portfolios, including lease terms, amenities, move-in and move-out dates, etc. Previously, landlords generally did not know the rents that tenants were paying to their competitors, thereby prompting landlords to drop the asking price for units that were not attracting prospective tenants. RealPage offers a remedy to this “dilemma of competition” by making algorithmically derived recommendations to its clients for how much rent to charge for each of their units. The explicitly stated goal for RealPage, as outlined in the legal documents filed in the US District Court in Seattle, WA, is that their service grants their clients the “courage to charge an inflated price by the implicit assurance that all of their competitors were doing the same” [21], even if it means waiting longer periods of time for a tenant to accept the demanded rent than landlords would otherwise be comfortable doing. Perhaps the single most damning admission by RealPage is that *they treat all their clients’ units as their own*.

This study critically examines the publicly available legal documents filed against and in defense of RealPage through the lens of “class monopoly rent” [22], a concept rooted in land rent theory. In the process, it identifies the practices of RealPage as perhaps the best example yet of the pursuit and realization of class monopoly rent; that being, the portion of rent attributable to the ways in which property owners/producers “collaborate, rather than compete, to manipulate supply/demand conditions as a means of maximizing the realizable rent on their properties” [23] (p. 255). Scholarship on class monopoly rent (CMR) emphasizes how this form of rent is easiest to pursue and capture at the local scale of distinct neighborhoods of housing submarkets [22,24–26]. As we illustrate below, the application of AI-enabled algorithms to set rental prices across multiple segments of housing markets has the capacity to extend the socio-spatial impact of CMR across trans-local scales in ways that otherwise might not be possible.

As we illustrate below, the RealPage case also tests the efficacy of existing US antitrust legislation to recognize and effectively regulate this emergent and algorithmically enabled strategy of pursuing CMR. Building on insights proffered by Tapp and Peiser [2], we highlight the conceptual value of CMR insofar as it reveals a widespread and variegated landscape of anticompetitive pursuits in the real estate industry, which have long evaded detection from US antitrust legislation. This study specifically illuminates notable shortcomings with respect to how the existing US antitrust legal framework treats the role of intentionality.

Indeed, rent-setting algorithmic technology is in no way confined to the US, as RealPage is now also active in the single-family rental sector in the United Kingdom (UK) [27]. The technology is increasingly gaining hold in Australia as well [28]. As we argue, countries in which tenant rights laws are weak are particularly susceptible to the formation of this mode of algorithmically enabled cartelistic behavior. Moreover, the use of algorithms to set prices does not just impact the real estate sector, as indicated by lawsuits that target the retail gasoline market in Germany [29], Amazon's practices across national contexts [30], and the national electricity market in Australia [28]. The short-term accommodation sector has been impacted as well, with lawsuits targeting Bookings.com in particular [31].

We focus on RealPage's impact on the long-term accommodation sector, as housing is unlike most other commodities insofar as shelter qualifies as one of people's basic life needs in Maslow's taxonomy, along with food, water, air, etc. In short, to be housed is not a choice, but a basic human necessity and utility. The prioritization of the exchange value of housing (i.e., rate of return on investment) over its use value (shelter for people) effectively constitutes a conflict of interest among landlords [22,23], especially when acting cooperatively as a class as a means of *maximizing* the realizable rent on their properties. We argue that the repercussions of this cartelistic behavior on low-income populations in particular, who have no other choice but to rent, are not only dire but constitute a form of violence, especially in the context of the ongoing unhoused crisis in the US [13,14]. We confine our analysis to the US due to the emergent class action lawsuit that is currently unfolding, which is the source of the data that we examine below.

In what follows, we first situate the study within broader scholarship on the role of digital platforms in contemporary real estate practices [32–34]. Scholarship on digital platforms in real estate, or “proptech,” is growing, but it has yet to substantively examine the CMR-yielding impacts of rent-setting algorithms. This is followed by a review of the relevant literature on CMR. We then assess the tenets of existing antitrust legislation in the US with an emphasis on the way in which the concept of intentionality is treated by the law. In the process, we bring these bodies of scholarship into closer dialogue to establish, first, a typology of CMR based on whether or not the cartelistic behavior is based on *explicit collusion*, *tacit collusion*, or *non-collusion* (for a similar typology of algorithm-enabled collusion, see [35]); and second, a more nuanced understanding of intentionality that, we argue, should be adopted by regulators to better recognize the myriad ways in which the capture of CMR is realized in the real estate sector.

This is followed by an empirical narrative of the RealPage case to illustrate how RealPage has monopolized its algorithmic technology and deployed it to facilitate the capture of CMR for its clients (and from which RealPage's profits are derived), which tend to be large, investor-backed corporate landlords that, in many cases, already enjoy a significant degree of market concentration in many housing submarkets across US cities. In doing so, we expose RealPage's defense strategy, which seeks to exploit the limitations of existing antitrust legislation with respect to scale as a means of occluding its illicit actions, as well as intentionality insofar as only explicit collusion is clearly identified as a crime by the law. Rather than overcoming the urge to explicitly collude in smoke-filled hotel rooms, per RealPage's defense, we find that the firm's algorithmic-enabled price-fixing practices hold the potential to *widen* the socio-spatial impact of this collusive behavior beyond local submarket boundaries. We conclude by discussing the study's implications for regulatory interventions in the US and beyond with an emphasis on the kinds of housing policies intended (or designed) to suppress the pursuit of (explicitly collusive, tacitly collusive, or non-collusive) CMR in the first place and, in the process, the deployment of algorithmic technology toward this end.

2. Platform Real Estate and the Socio-Spatial Dynamics of CMR

It was in the post-Great Recession climate whereby digital technology became thoroughly embraced by the real estate sector [32,34,36–39]. As Fields notes, “. . . advances in digital technologies have been vital to capitalizing on the opportunity posed by post-crisis market conditions” characterized by “large supplies of discounted property, constrained mortgage credit, and increased rental demand” [33] (p. 161). With such technological advances, private-equity-backed investors were suddenly able to “assemble large, geographically dispersed portfolios and issue securitizations backed by rental income flows” in ways that previously were not feasible [33] (p. 161). In short, the single-family asset class was born, made possible by the adoption of digital, platform-based innovations and algorithmic calculations [33,36]. Here, algorithms are deployed to identify suitable properties on the market across wide geographies (enhanced by 3D virtual tours) and make them available for swift review (and without necessarily seeing the properties in-person) [32,33].

In conjunction with this large-scale investment in the rental housing market, the same kind of digital innovations has revolutionized *how* rental properties are managed by landlords and property management firms. The entire tenant and property management process has increasingly become automated, enabled by “smart phones, digital platforms [i.e., Zillow, Airbnb], and apps . . .” [33] (p. 162). Everything from rent collection to maintenance is increasingly mediated by digital interfaces, thereby cutting down on property management labor costs by having tenants increasingly do the work of property management themselves [34,40].

This emergent development, which has been termed “platform real estate” [32,37], has revolutionized the rental housing market by transforming the relationship between real estate stakeholders, “dramatically reshaping how housing is bought and sold by homeowners and investors, operated by landlords, and inhabited by us all” [32] (p. 18). Big data, AI-enabled algorithms, and cloud and mobile computing have only further enhanced the capacity of digital real estate platforms to enable large-scale property acquisitions, reduce operational costs, and increase the turnover time of capital invested in rental properties. Importantly, we note the likelihood that such revolutionary transformations, in the process of “serving the interests of people and places already benefiting from property-led accumulation” [32] (p. 9), are to reproduce (if not exacerbate) established discriminatory legacies (i.e., redlining) and socio-spatial inequalities [38,41,42]. This exploitative dynamic is particularly implicated in the data-driven, rent-setting algorithmic technology examined in this study.

Yet, while the conversion of housing into a financial asset has been studied extensively [43], the role played by digital platforms in terms of “grasping how financialization is practically realized” has only recently been addressed by geographers, sociologists, and housing scholars [33] (p. 161). Within this emergent scholarship, the kind of rent-setting algorithmic technology mobilized by RealPage has yet to be substantively subjected to analytic scrutiny. In responding to this gap, we answer Fields and Rogers’ call for more scholarship that “explore[s] platform real estate in a wider range of contexts. . .” [32] (p. 6). Moreover, while the role of monopoly within the development of platform real estate has been addressed in the context of the increasing consolidation of data and technology among a limited number of major firms who seek market control [36,40,44], the socio-spatial dynamics of CMR have only received peripheral recognition. We deepen this understanding by connecting this literature with critical land rent studies on CMR and the efficacy of existing US antitrust legislation.

The Socio-Spatial Dynamics of CMR

The concept of CMR stems from land rent theory and represents an extension of Marx's notion of absolute rent (AR) in the urban context [45,46]. Rooted in the agricultural context of early capitalism, the concept of differential rent (DR) was first presented by classical political economists to explain why some plots of land yielded higher rents than others. The explanation that was given is that capitalist users of better land, e.g., land that is more fertile or located in closer proximity to markets, can generate greater profits, which means the landowner's claim on a portion of this profit as rent can also be greater than owners of inferior plots of land. In the urban context, land of greater fertility translates into the quality of buildings or locational advantages such as proximity to public transportation, employment centers, parks, schools, water bodies, etc. To Ricardo, all rents were conceptualized as varying degrees of DR [47].

Marx, however, recognized that a baseline level of rent also existed (before differential values are considered), below which landowners (even on the most marginal land) would opt to withdraw their land from circulation. Nobody rents out their land for free. This baseline, or the minimum amount of rent deemed acceptable by landowners, could not be explained by DR, with Marx referring to this baseline as AR. Nor could DR explain the rent yielded on land endowed with unique qualities. Marx distinguished the proportion of rent attributable to such non-substitutable properties (i.e., wine from an exceptional vineyard) as monopoly rent (MR), as there are no other landowners able to compete for the same tenants. The landowner has exclusive ownership of this resource and can grant access to whoever is able to pay the most in rent. What grants landowners the power to charge rent to their tenants in the first place is the private property institution, which is what also permits them to "collectively manipulate supply/demand conditions to ensure that each are able to realize at least the socially determined minimum return in a given place and time" [48] (p. 50). The result is the production of "artificial scarcity", which acts as a barrier to capital entry into the market, a key feature of AR [22].

Harvey was among the first to rework Marx's categories to the urban context and, in the process, effectively renamed AR as CMR to represent the proportion of rent attributable to this scarcity-producing behavior [22,49]. Harvey observed that slumlords in the disinvested inner-city neighborhoods of Baltimore would leave rentable units vacant that would have otherwise cost more to maintain, resulting in the simultaneous rise in both rents (for all landlords in the market in question) and vacancies, a phenomenon that seemingly violates conventional supply and demand logic [22]. In short, why invest in maintaining a unit only to rent it out below the minimum rate of return?

Considerable debate erupted in the 1970s and 1980s concerning the legitimacy of CMR in the urban context [50–53]. A feature of this debate has been the notable confusion about the distinctions between AR, MR, and CMR [52,54–57]. Harvey (1974: 241) specifically identified CMR "as a form of AR" but did not provide further explanation [22] (p. 241), although he did later specify that Marx's notion of AR did not seem "appropriate" to his empirical case of housing submarkets in Baltimore at the time [58]. Our interpretation is that it was Marx's emphasis on the state of intersectoral competition that set the limit on how much AR could be realized by landowners that Harvey did not find relevant in the context of urban housing submarkets. In fact, seemingly contradictory passages by Marx have led to multiple interpretations and disagreements [59–61]. We follow Anderson, et al.'s interpretation that "a lower organic composition of capital (i.e., higher reliance on variable capital versus constant capital) in comparison to the average across industries is not a precondition for AR as much as it is the outcome of landowners forming a barrier to capital entry in the market: it is a potential result of the supply-reducing behavior . . . (rather than a necessary precondition). [48] (p. 55). It did not help that alternative names for

CMR were also proposed, such as “scarcity rent” [62], “economic rent” [63], and “political rent” [57].

Adding to this confusion is, for example, Jaeger’s distinction between two forms of MR [56], and Lipietz’s assertion that the distinction between MR and AR is irrelevant [54]. However, King articulated that the key distinction between AR and CMR is that AR “arises from blocking the flow of investment on to land, whereas [CMR] relates to the exercise of a monopoly power over the use of the land” [55] (p. 450). While King explicitly recognized that this distinction is not always analytically clear in empirical contexts [55], Ward and Aalbers concluded that AR and CMR are essentially the same thing [52]. (For a more detailed discussion of this confusion, see [51,60]. For the sake of clarity, we also treat CMR and AR as the same. We refer to this form of rent as CMR in this study because it “explicitly highlights the role of both monopoly and class in the realization of this form of rent” [23] (p. 1116), although we note that AR could just as legitimately be used.

It is also important to stress that it is nearly impossible to quantitatively measure the amount of rent that goes to DR, MR, or CMR, as rents are paid as lump sums [52]. As such, much of the literature on CMR examines the behavior of landowners via qualitative or mixed-method analyses that reveal potential signposts of CMR (e.g., increasing prices alongside increasing vacancies, landowners admitting to various coordinating strategies). While this study follows in this regard, our analysis reveals quantitative data that does, according to RealPage’s own analyses as communicated through public statements, ostensibly measure the proportion of rent that is attributable to their CMR-implicated services. RealPage, we argue, has an invested interest in doing this as a marketing strategy to show potential clients the benefits gained by partnering with RealPage.

The role of intentionality: A striking feature of CMR is that landowners do not necessarily have to be intentionally colluding to collectively exert the upward pressure on rents that arise from the scarcity-producing behavior detailed by Harvey [22]. One of the most compelling features of Harvey’s analysis is that landlords do not need to meet (or even know each other) to coordinate their actions [22]. Why not? Because acting individually is all that is needed to yield noncompetitive effects insofar as each landlord is compelled by the same imperative to realize the socially accepted minimum rent, if not to maximize their rate of return. As Teresa notes, this form of rent “is rooted in the ‘class’ or collective, but not necessarily collusive, action of property owners” [64] (p. 37). For example, the treatment of land as a financial asset in capitalist societies motivates landowners to speculate, and they often find that it pays to keep their units vacant before committing to a lease in a situation where rents are rapidly rising [65,66]. Here, explicit or tacit collusion does not have to exist, yet it is still constitutive of a regime of CMR insofar as the aggregate effect of landowners making the same individual decisions yields anticompetitive impacts, which we call a non-collusive regime of CMR.

There are myriad examples of non-collusive regimes of CMR, i.e., global wealth elites who invest their money in real estate as a safety deposit box in global cities like New York and London [67], the supply-reduction that takes place in the long-term rental sector when units are converted to short-term accommodations [68], and the often-cited decision among landlords to sell their properties as a response to rent control [69], although, see [48]. Indeed, such a dynamic is arguably built into the architecture of (neoliberal) capitalism [25,43,48].

However, other studies have revealed much more explicit forms of collusion, such as Anderson’s analysis of CMR in Portland where developers have actively worked together to stagger the release of their units to the market to avoid competition [25], or to “balance land hoarding [with] land development in view of maximizing family-level property wealth accumulation” [70] (p. 178). Adams et al. describe a similar dynamic among the biggest developers in the UK, who intentionally limit the number of units they complete in a year

to ensure “sufficient” demand in particular submarkets [71]. These studies are situated within a broader surge of scholarly interest in CMR in recent years, which entails many empirical studies of CMR in a variety of contexts [2,23–26,64,70,72–83].

The distinction between what we identify as explicit collusion, i.e., direct and concerted agreement to collude via communication by otherwise competitors, or tacit collusion, i.e., where the market players understand what they are doing without having to directly communicate with one another, is often unclear in many of these studies. But what is much more clear is that the capitalist imperative to maximize profits in all three types of CMR (explicit, tacit, and non-collusive) functions as a key coordinative mechanism for directing their behavior toward such supply-restrictive practices, and to the benefit of each landowner operating in the collective. In this context, the imperative to maximize profits functions as a kind of “hive-mind” that aligns the otherwise diverse motives of landowners such that they do not need to be intentionally coordinating their behavior in an explicit or tacit manner for an effective cartelistic scenario to arise. While this is not necessarily problematic from a Marxist perspective, it poses a challenge to the neoclassical economic perspective insofar as the profit imperative, normally treated as innocent, is implicated in harm-inducing forms of anticompetitive behavior.

CMR and scale: Another key feature of this scholarship is the recognition that the housing markets of metropolitan regions are a complex mosaic of submarkets, whereby each submarket is constituted by a sharply limited range of housing units that cater to narrow segments of consumers in the social class structure. It follows from this recognition that the cartelization of supply in a submarket can only be successful if potential consumers have no alternative markets to consider. Following Harvey, low-income residents are the easiest to “trap” in depressed and disinvested neighborhoods as they are often the only places in which they can afford to live [22] (also see [64,80]).

More affluent populations, however, are more difficult to trap. Here, the power of persuasion is deployed by developers in the context of “discursive branding” to choreograph certain submarkets as “exclusive” and/or “unique,” such as Chicago’s Bronzeville [75], Portland’s Pearl District [25], or Seattle’s South Lake Union [23] (also see [52,83]). As Anderson stresses, “insofar as certain neighborhoods are ‘branded’ with particular senses of uniqueness, exclusivity, and/or class-based identity . . . then a perceived scarcity is established and can be collectively managed by the producers/owners of property” [25] (p. 1039). There may be many condos priced at certain levels across Portland, but if prospective buyers truly believe that there is only one Pearl District to the point where they only consider housing in this district, then such discursive constructions might as well be true.

It is in this context that Revington has identified CMR as a theory of submarkets [26], where the logic of supply and demand only makes sense within the “island-like” structure of housing sub-markets [76]. Because of this, the real and perceived impact of pursuing CMR is often considered to be confined to local submarket boundaries, often conceptualized as neighborhoods [25,26] (also see [80]) of similarly priced and qualitatively comparable housing units where supply–demand conditions can more easily be controlled.

3. The Tenets of US Antitrust Legislation

A full review of the history of antitrust legislation in the US is beyond the scope of this paper. However, Tapp and Peiser provide a recent review from which we borrow generously for the sake of preserving space [2]. The antitrust legal doctrine in the US is based on three legislative pillars: the Sherman Act (1890), the Clayton Act (1914), and the Federal Trade Commission Act (1914). Until the 1960s, the interpretation of these pillars was guided by the “structured-conduct-performance” paradigm, which is based on the notion that a market that becomes dominated by a small number of large firms invariably becomes

“skewed toward anticompetitive . . . collusion, barriers to entry, product differentiation, and monopoly that in turn affect the overall performance of the economy” [2] (p. 564)

This framework allows regulators to police the size, structure, and behavior of business entities as a means of “preventing large firms from accruing enough power to distort markets” [2] (p. 564). This approach, however, was fundamentally transformed during the 1970s and 1980s due to the rise and influence of neoclassical economic theory. The “consumer welfare” paradigm then emerged, which is rooted in the belief that monopolies are inherently unstable formations that are difficult to achieve in the first place and would be disrupted by market dynamics on their own. Consequently, emphasis among regulators moved away from monitoring market structure toward an emphasis on measuring prices as a means of stimulating market efficiencies [2]. Consequently, acquisitions were less monitored, and the size of firms increased via a series of major corporate mergers in the 1980s.

The consumer welfare paradigm remains the guiding framework today, and one of the major impacts in the housing sector is that antitrust law has only been applied to the owner-occupied market [2]. As such, and despite increasing criticism from governing officials, policy makers, and academics, what is a major blind-spot on the rental housing market in terms of the applicability of antitrust law remains in place, which continues to be guided by a framework that interprets property transactions as financial deals that yield no anticompetitive impacts. As just one consequence of this, Tapp and Peiser reveal that only a handful of real estate investment trusts (REITs) and corporate landowners have colonized a significant share of the rental stock in many housing (sub)markets across the US and that they are investing in each other’s portfolios in a strategy of “horizontal shareholding” [2]. Yet, antitrust regulators are blind to what is at least a tacit pursuit of CMR among these corporate entities, a pursuit made possible by the emergence of digital real estate technologies, as discussed above. Tapp and Peiser call for returning to a framework that emphasizes market structure and better assesses “competition and consolidation in financialized housing markets” and how firms leverage their market power to the tune of collusive conduct [2] (p. 563).

We build on this scholarship by arguing that there must be a place in any reformed antitrust framework to include a more nuanced understanding of intentionality. For example, it should not necessarily matter if the REITs participating in the horizontal shareholding revealed in Tapp and Peiser’s analysis were doing so individually, tacitly, or explicitly, as anticompetitive effects ensue nonetheless and, as such, should warrant some kind of regulation at the very least (if not criminal proceedings). However, the presence of explicit intent is significant in the eyes of the law, with the difference between illicit behavior and firms exercising their right to make as much money as possible in a free and competitive society.

That this distinction matters in the existing legal framework can be tied to the stranglehold on antitrust law by neoclassical economics, which has all but ignored the concept of CMR [48]. Only a few neoclassical commentators have explicitly engaged with Harvey’s insights, most notably Houghton [84]. One of Houghton’s reasons for rejecting the validity of CMR is that one must show that the market actors have intentionally colluded, with Evans further asserting that, while conceding that land is held vacant for a variety of reasons, for this behavior to be deemed monopolistic, it must be done by landowners acting intentionally for this reason [63]. Houghton also expresses skepticism towards the idea of “island-like” submarkets. Houghton concedes that a submarket may indeed be monopolized by one major landowner, but the “problematic notion” that consumer captivity can be generated in any prevalent way is not considered to be persuasive. Moreover, for this

pursuit to be monopolistic, again, depends on whether “it can be shown that there is a conscious strategy to create a monopoly . . .” [84] (pp. 271–272).

Antitrust Legislation and Intentionality

This understanding of “explicit intent” remains a pillar for regulators in their interpretation of antitrust law. Drawing directly from the US Department of Justice (DOJ), “The Sherman Act prohibits any agreement among competitors to fix prices, rig bids, or engage in other anticompetitive activity” [85]. Here, while it is not entirely clear what constitutes an “agreement,” some sort of concerted activity among market players to overcome competition is implied. More telling is the distinction made in the following passage:

“An unlawful monopoly exists when one firm has market power for a product or service, and it has obtained or maintained that market power, *not through competition on the merits*, but because the firm has suppressed competition by engaging in anticompetitive conduct” [our italics]. [85]

From this statement, it is clear that the formation of a monopoly is not in itself illegal, or even problematic, if it is the result of “the merits,” which we interpret to mean a firm outcompeting its competitors “fairly,” such as creating a monopoly innocently by producing a superior product or service without colluding with competitors. We stress the word “innocent” because of the DOJ’s caveat that “the indicators of collusion merely call for further investigation to determine whether collusion exists or whether there is an innocent explanation for the events in question” [our italics] [85].

Of immediate relevance is a letter written by Maureen Ohlhausen in 2017 [86], then acting chairman of the US Federal Trade Commission. This letter is particularly instructive as it was made in direct response to the concerns raised about the use of algorithms to generate tacit collusion among market actors. Ohlhausen is clear insofar as “firms are free to set whatever prices they choose, as long as they act independently” (our italics) [86]. Ohlhausen even describes a hypothetical situation where the owners of nearby gas stations all increase their prices by observing each other doing the same thing. Ohlhausen is clear in stating that “the antitrust laws do not condemn this behavior” [86]. Ohlhausen explains below:

“So why don’t we enforcers take action in this situation to prevent conscious parallelism? In a free market, individual actors are free to set their prices on the basis of all the information legally available to them. It is axiomatic that we cannot tell firms to ignore the public behavior of their rivals when they set prices without deleting the “free” in free market. Enjoining this kind of behavior would inevitably lead to price regulation, which is completely inimical to the underlying purposes of the antitrust laws . . . *because we cannot police this sort of behavior directly, instead we try to make sure . . . that the conditions that allow this kind of behavior to take place generally don’t arise in the first place*” [our italics]. [86]

We note that what is described above as “conscious parallelism” effectively constitutes an example of what we term tacit collusion insofar as the market players are consciously engaging in price-copying practices, just without directly communicating with one another. Once they begin to openly discuss what they are doing, however, it becomes illegal, following Ohlhausen’s comments [86]. It is also worth noting that while it might not be reasonable to consider the example described by Ohlhausen above as criminal, this does not mean that it is unproblematic either, hence the circumvention strategies implied at the end of the statement.

In terms of scale, as Christophers illustrates in the context of the US and the UK, the existing antitrust framework does not seem to paint a clear picture as to where market

boundaries begin and/or end [87,88]. The answer, at least in the court of law, evidently depends on the persuasiveness of the lawyers in question. A common and often successful strategy among defense lawyers is to reconceptualize the boundaries of the market such that it encompasses a broader geographic area, such as a nation rather than a metropolitan region. As Tapp and Peiser note, “housing markets are fuzzily defined,” a geographic market “can be as big as a nation or as small as a city” [2] (p. 565). The formation of intra-urban submarkets does not fall within this scalar range, and that “regulation that defaults to viewing housing as if it were a national market dilutes the concentration of monopolistic and oligopolistic power that forms at the local level” [2] (p. 656), of which CMR scholarship compellingly implicates as a pervasive reality.

This means that it is safe to assume that the FTC’s strategies to intervene in the conditions that allow for “conscious parallelism” to arise in the first place have not applied to the submarket scale. Worse is that when considering the cartelistic behavior among developers in, for example, Portland’s Pearl district [25], such behavior has no chance of raising interest among regulators due to this example unfolding at the submarket scale, even though the evidence points to the possibility of the kind of explicit intent that the existing laws deem a crime. In this context, following Christophers, identifying the spatial extent or scale of the market in question constitutes a political strategy for both prosecutors and defendants in antitrust law cases [87,88]. The bigger that the market in question can be discursively choreographed, defendants can argue that they control less market share, thereby weakening the case against them. As we reveal below, this is one of the tactics being employed by RealPage. For RealPage, it helps that submarkets do not exist in the eyes of regulators. The other tactic is to hide behind the law’s understanding of intentionality: because RealPage’s algorithmic technology purportedly precludes any explicit or concerted agreement to collude directly between competitors, i.e., in a smoke-filled hotel room, then no wrongdoing has transpired.

4. Methods

The following section illustrates the socio-spatial contours of the RealPage case as an example of a regime of CMR based on tacit collusion among RealPage’s clients, and explicit collusion for RealPage based on their role in the regime. Evidence is presented in the form of a constructive narrative [89,90] and is drawn from an investigation conducted by *ProPublica* and publicly available legal documents filed against RealPage, as well as RealPage’s defense. When reviewing the legal documents, we began to realize that much of the evidence comes directly from the *ProPublica* investigation. This makes sense as the DOJ recognizes that:

“Collusion can be very difficult to detect. Collusive agreements are usually reached in secret, with only the participants having knowledge of the scheme. However, suspicions may be aroused by unusual bidding or pricing patterns or something a vendor says or does”. [85]

As such, the DOJ can come to rely on independent investigations depending on the context of the case in question, as “any statement indicating that vendors have discussed prices among themselves or have reached an understanding about prices” constitutes evidence [85].

After learning of the class action lawsuits, we searched for the legal documents filed for each US state where the initial lawsuits emerged. For the purposes of clarification, when evidence presented in the legal documents was originally reported by *ProPublica*, we cite the *ProPublica* investigation. We then searched news media via Google and news media search engines through our institutional library, using key terms such as “RealPage,”

“lawsuit,” “antitrust,” Department of Justice,” “rent setting,” “algorithms,” and “monopoly,” in varying permutations.

A content analysis [89,91–93] of this empirical material was then conducted via a coding procedure that inductively identified recurring themes about RealPage’s admitted practices related to the logic and mechanics of CMR. This procedure entailed the authors of this study flagging passages that contained evidence or implications of tacit or explicit collusion. Documents were then grouped based on the kind of evidence they entailed, with quoted material compiled and cited into a separate Word document. The narrative presented in the following section was developed from the material compiled in this document.

5. Real Page, Inc. and the Pursuit of CMR

Jeffrey Roper joined RealPage in 2004 to become the company’s CEO. Roper, importantly, already had a notorious background when he served as the Director of Revenue Management for Alaska Airlines in the 1980s [94]. At this time, Roper developed similar price-setting software for the entire airline industry for the purpose of setting prices as if the industry were one corporate entity. The DOJ’s Antitrust Division stepped in to intervene, with Roper’s response being “we had no idea” [94]. Despite this experience, Roper then observed considerable potential for achieving a similar kind of price-setting scheme via algorithmic applications in the US rental housing sector. Property owners reportedly began using the software in 2009. By 2018, RealPage had acquired its primary competitors, including Axiometrics, Lease Rent Options (LRO), On-Site Asset Manager, Inc., and LeaseLabs, to become the primary price-setting vendor to the multifamily rental market. The mergers were, in fact, approved by the FTC in a move that even Roper admitted was surprising [94].

RealPage was then acquired by private equity firm Thoma Bravo in 2021, followed by an investigation into their practices by *ProPublica* in 2022. At this point, renters responded by filing lawsuits in the US states of Washington, California, Colorado, Connecticut, Minnesota, Massachusetts, Texas, Arizona, Tennessee, and the District of Columbia (DC), many of which were then combined in federal court in 2023 [95]. This prompted separate investigations by congressional lawmakers “which later backed the tenants’ lawsuits” [95]. Once becoming the largest price-setting firm, RealPage had the largest multifamily apartment property management companies in the US, with the 5 biggest “[controlling] thousands of apartments in metro areas such as Denver, Nashville, Atlanta and Seattle, where rents for a typical two-bedroom apartment rose 30% or more between 2014 and 2019” [94]. In total, 1.3 million units across 43 states and DC had entered RealPage’s database, with the six largest landlords being Greystar Real Estate Partners LLC, Blackstone’s LivCor LLC, Camden Property Trust, Cushman & Wakefield Inc. and Pinnacle Property Management Services LLC, Willow Bridge Property Company LLC, and Cortland Management LLC.

5.1. Tacit Collusion and Supply Reduction Practices

The incriminating evidence against RealPage is overwhelming and extends far beyond what we can include in the space of an article. As such, what we present below emphasizes the practices that RealPage and its clients have admitted themselves. From a lawsuit filed in Arizona, one client of RealPage explained that while they are all technically competitors, RealPage “helps us work together . . . to work with a community in pricing strategies, not to work separately . . . to make us all more successful in our pricing” [96]. Statements like this clearly indicate that at least this client was fully aware of what their partnership with RealPage meant: a form of collusion that might as well be explicit, as RealPage effectively stands in as a representative for their other clients. While this client may not have been

openly discussing rents directly with their competitors, their intent to collude appears quite explicit in this passage.

Recognizing the displacement effects (evictions increased in Maricopa County by 23% from 2022 to 2023), the CEO of this same client was quoted as stating “the net effect [of] pushing people out” was an additional “\$10 million in income” [96]. RealPage “assured” clients that “their competitive data would be used to keep prices artificially high, leaving renters in the Phoenix and Tucson metropolitan areas with no choice but to pay” what they demanded, with RealPage explicitly stating that this knowledge helps their clients overcome their otherwise “lack of faith in [their] property’s ability to command the rental rates generated” [96].

In the context of Washington, DC, RealPage and their clients are reported to have publicly advertised “that landlords who participate in the scheme, agreeing to use RealPage’s RM Software to set rents, can boost revenue (i.e., rents) by 2–7%” [97]. It was in this case that a representative from Greystar, a client of RealPage, was asked if landlords contract with RealPage to collude on raising rental prices. The representative strikingly answered by stating that “of course they did—it’s the entire reason landlords used the software” [97], again admitting to a form of collusion based on (at least) tacit intent.

Just as revealing is the admission by another RealPage client that they’ve “increased revenues per unit 4.6–4.7% and [were] able to increase revenue and rents *despite occupancy levels decreasing*” [our italics] [98]. Other clients are reported to have “achieved revenue lift between 3% to 7% in challenging cycles [even] at the height of the recession in 2009” [98]. The investigation added that RealPage’s revenue management software is employed by clients in the DC area to “set rents for more than 90% of units in large buildings (those with 50 or more units)” [97]. We also note that, if true, these assertions effectively constitute quantitative measurements of the portion of CMR that can be attributed to RealPage’s services in the DC area. Moreover, the implication here is that the socio-spatial impacts of this pursuit of CMR extend beyond any submarket to include 90% of units in large multifamily buildings across the DC area, buildings that are likely to cut across a variety of apartment types and price segments.

Reminiscent of the strategy employed by the cartel of developers revealed in Portland by Anderson [25], RealPage reportedly provides its clients with the ability to “stagger lease renewals to avoid oversupply [and] artificially smooth out natural imbalances of supply and demand” [99]. In other words, the data that RealPage has from its clients allows them to tell each client precisely when to lease their units as a means of manipulating the total supply of units on the market at any moment. The result of these practices has meant that landlords have been able to raise rents by 20% or more in some submarkets. When asked what role RealPage has played in these rent increases, Andrew Bowen, a RealPage executive, stated that “I think it’s driving it, quite honestly” [94], and representing, again (if true), a quantitative measurement of RealPage-induced CMR at 20% or more of the total rents realized, substantially higher than the average gross rental yield in the US of 6.51% reported in the third quarter of 2025 [100].

Perhaps the single most incriminating admission by RealPage has been the explicit recognition that these rent levels could not be realized without the service they provide to their clients, per another RealPage representative: “We believe in overseeing properties as though we own them ourselves” [97]. In short, through its algorithmic pricing, all of RealPage’s clients are effectively acting as a single entity with monopolistic control over many submarkets in many cities. Just as incriminating is another RealPage executive’s statement that “there is greater good in everybody succeeding versus essentially trying to compete against one another in a way that actually keeps the entire industry down,” and that if enough landlords use the product, they will “likely move in unison versus against

each other” [101]. In these statements, RealPage is admitting to actively performing the explicit collusion on behalf of their clients, effectively relieving them of directly communicating with their otherwise competitors. This is clearly not the same kind of tacit collusion as the gasoline stations in Ohlhausen’s example of conscious parallelism, as the supposed “independence” of RealPage’s clients is effectively compromised the moment they partner with RealPage.

We also stress the company’s understanding of not just the existence of submarkets but how to corner them at a micro-urban scale, with Ryan Kimura, former RealPage executive, noting that the “data can provide insight into competitors’ buildings located near the client—such as within, say, a half-mile or mile radius” [94]. Here, perhaps the single most impacted submarket in the US has been Seattle’s Belltown and South Lake Union, an area of Seattle that has already been examined through the lens of CMR in the context of tax-increment financing, discursive-branding, and environmental regulations [23]. The *ProPublica* investigation found that 70% of apartments in this submarket were overseen by just 10 property managers, with each one contracting with RealPage [94], a likely explanation for Giles’ observation of simultaneously rising rents and vacancies in this same area of Seattle [102].

Related to this is the strategy of keeping some rentable units off the market, while pushing the rents on other units up, a hallmark of CMR. RealPage evidently discovered this in Houston, where it was recommended to a client who was prepared to lower rents to minimize vacancies. It is in this context that Roper publicly stated that “there’s way too much empathy going on here . . . this is one of the reasons we wanted to get pricing off-site,” with another executive adding that “I think that shows keeping the heads in the beds above all else is not always the best strategy” [94].

Even more striking is the recognition among RealPage executives that if all their clients increase rents at the same time while staggering lease-ups to limit supply, renters have no option but to accept the increased rents. “A rising tide lifts all boats,” is what one real estate executive and revenue management proponent reported to the industry publication *Yield Pro* in 2007 [94]. Steve Winn, former RealPage executive, also stated in 2017 that one property company learned they could profit more by operating at lower occupancy rates: “Initially, it was very hard for executives to accept that they could operate at 94% or 96% and achieve a higher NOI by increasing rents . . . [they] began utilizing RealPage to operate at 95%, while seeing revenue increases of 3% to 4%” [94], increases that, again, can be attributed to RealPage-induced CMR.

Roper further explained that this can only work when all their clients accept the rents they recommend: “If you have idiots undervaluing, it costs the whole system” [94]. A defining feature of a cartel is a mutual agreement between committed parties that they will not undercut the other parties in the cartel by lowering prices [85]. RealPage assures its clients that their “competitors” will not do this [97]. As another RealPage employee asserted, “we just saw unbelievable resilience and I would say discipline in pricing through the worst of the downturns . . . a lot of people thought we’d see severe rent cuts; that just didn’t happen” [103]. Client faith in RealPage’s price-fixing scheme is critical to what is effectively a regime of CMR based on tacit collusion *at best* for RealPage’s clients. For RealPage, we argue that this evidence constitutes nothing short of explicit collusion. More importantly, the difference between tacit and explicit collusion in this context is arguably negligible, as RealPage is essentially performing the direct communication of their clients on their behalf, relieving them of having to do it themselves, and rendering their collusion just as explicit.

Lastly, even in terms of facilitating physical meetings between clients where direct communication could conceivably transpire, RealPage’s clients may still be guilty of this

in the context of their annual conference, “RealWorld.” The so-called “RealPage User Group,” a forum for clients, “actively encourages rivals to work together” and “promote communications between users,” according to RealPage’s website [94]. The group now includes over 1000 participants, including myriad subcommittees with two focused on “revenue management,” which meet in invitation-only sessions during the meeting, plus quarterly calls.

5.2. RealPage’s Defense

RealPage’s defense has relied on blanket denials and claims of false accusations that their actions have distorted competitive market dynamics while providing little support to demonstrate that they are false [97]. RealPage insists that the lack of affordable housing is the real problem, though their own admitted actions would suggest that they have played a key role in producing this crisis. Most important is RealPage’s reliance on a conception of the “market” situated at either the national or city scale.

Ric Campo, CEO of Camden Property Trust and RealPage client, informed *ProPublica* directly that his company’s home city alone is so big and diverse that “it would be hard to argue there was some kind of price fixing” [94]. Here, predictably, it is the market conceived at the city-scale that evidently matters. Indeed, RealPage’s analysis of its rates of market penetration across US metropolitan regions as of 2023 peaked only slightly over 20% in just three cities [103]. For RealPage, the conception of the market that stretches across metropolitan regions and even the entire country is necessary to lessen the scope of their actions in the eyes of the DOJ. Submarkets that exist within cities are conveniently not recognized. Of course, this amounts to little more than discursive sleight-of-hand, as RealPage executives have themselves described how they corner markets at sub-metropolitan scales, as discussed above. It also obscures the reality that RealPage has at least 70% of rental units in Seattle’s Belltown and South Lake Union, or 90% of units in large multifamily buildings across the DC region.

In further defense of their actions, RealPage has asserted that their “revenue management solutions prioritize a property’s own internal supply/demand dynamics over external factors such as competitors’ rents . . . and therefore help eliminate the risk of collusion that could occur with manual pricing” [94]. What is meant by “manual pricing” references the reality that landlords have a history of calling each other to inquire about the rents on their units. This is a well-documented reality and represents a step further toward explicit collusion than the example of conscious parallelism described by Ohlhausen in the previous section. According to RealPage, they are not only innocent but also offer a pathway that avoids the risk of their clients doing this [104]. Here, RealPage understands collusion to be something that can only happen when market actors are literally meeting to form explicit agreements about pricing schemes. Tellingly, RealPage is drawing on the understanding of intentionality embedded within the antitrust laws, whereby criminal intent entails an explicit “agreement among competitors” [85] for the purpose of forming a cartel. That RealPage and its clients have purportedly not done this—indeed, that their services supposedly provide a remedy to the risk of this happening in the first place—any market distortion that may have arisen from their behavior can only be deemed innocent.

This argument, of course, is in complete contradiction of RealPage’s own admitted strategies of how their algorithmic technology uses the data, as revealed above. Even Ohlhausen made it clear that the use of algorithms in this way renders such meetings irrelevant, effectively indicting this particular example of tacit collusion as a crime:

“Everywhere the word “algorithm” appears, please just insert the words “a guy named Bob.” Is it ok for a guy named Bob to collect confidential price strategy information from all the participants in a market, and then tell everybody how

they should price? If it isn't ok for a guy named Bob to do it, then it probably isn't ok for an algorithm to do it either". [86]

While RealPage's clients may not have literally met (or even know one another), RealPage's services render such meetings unnecessary as they are effectively doing the dirty work for them, and suggest a re-evaluation is potentially needed among regulators of what constitutes explicit collusion and criminality in the context of advanced algorithmic technology. It also prompts the question of the distinction between unlawful tacit collusion versus the kind of lawful conscious parallelism as outlined in Ohlhausen's example of the adjacent gasoline stores. Ostensibly, the introduction of a third party that performs direct communication between market players on their behalf effectively renders any intent to collude explicit and, thus, a criminal act.

Beyond this is the possibility that RealPage's services, rather than circumventing risks of criminality, widen the scale of its collusion-facilitating impact across submarket boundaries. Indeed, when landlords called their competitors, or in Harvey's observations about 1970s Baltimore, a key precondition for pursuing and realizing CMR has been the existence of housing submarkets with clearly circumscribed socio-spatial boundaries. It is within such boundaries that supply–demand conditions can be manipulated by rent-seekers, which scholarship on CMR has extensively examined. However, RealPage's algorithmic technology potentially bursts through such boundaries to constitute supply–demand manipulative practices where the impacts extend across trans-local scales, as the case of large multifamily buildings in DC implies. Indeed, one can envision a scenario where multiple neighborhoods (with varying compositions of housing stock) across a metropolitan region, served by different consortia of landlords, could become integrated into the same regime of CMR insofar as enough of these landlords are contracting with a rent-setting entity like RealPage. Indeed, this is one of RealPage's goals, to progressively increase the number of its clients, as more clients mean greater market control.

The case is currently ongoing, with some landlords already having agreed to settlements in early 2024 [105].

6. Conclusions

We have demonstrated in this paper the explicit mission by RealPage to capture CMR in the US rental housing market. They do so by intentionally coordinating the explicit collusion of their clients on their behalf to raise rents via their algorithmic technology, and the greater market shares their clients collectively control within and across housing submarkets, the greater the volume of CMR can be enjoyed by the cartel. What the RealPage case exhibits is that if the intent to collude is present, the line between explicit and tacit intent is not always clear, or even relevant. However, in terms of existing antitrust legislation, in the case of landlords leaving rentable units vacant and off the market, if these decisions are the outcome of an explicit agreement to collude, then criminality is implicated. However, if it is the result of tacit collusion, i.e., effectively colluding without directly communicating, then this is treated as an innocent explanation, a feature of the law's common interpretation that RealPage deploys in its defense.

Yet, Ohlhausen's testimony suggests that this does not necessarily mean that forms of tacit collusion are unproblematic, and that a more nuanced understanding of intent may be needed to interpret the existing laws in the context of emergent algorithmic technological realities. Here, we argue that the difference between explicit and tacit intent vanishes when a third party performs and coordinates the cartelistic-underpinning communication. Beyond this, however, is the reality that tacit or non-collusive pursuits of CMR are not necessarily less harmful to tenants, as illustrated by existing scholarship on CMR.

We find this to be especially true in a country like the US, where the housing affordability crisis is particularly onerous, where the amount of subsidized housing is woefully insufficient, where tenant rights protections are weak, and where houselessness has grown to crisis levels in many metropolitan regions [1,13,14]. To what extent should harm being committed to tenants, if not in of itself a signpost for crime, be considered an acceptable consequence of behavior that is otherwise understood as innocent? Olhausen does indicate that the DOJ tries to intervene in the processes that give rise to tacit forms of collusion, i.e., conscious parallelism. However, scrutiny of the antitrust laws reveals that such interventions are blind to the explicit, tacit, or non-collusive pursuit of CMR that arises at the intra-urban scale [2].

Fundamentally, where the ranks of the unhoused are growing and wider segments of the population are being priced out of the market, we find it particularly problematic for developable land or leasable housing units to remain vacant as a means for landowners and developers to speculate and maximize their rates of return. Merely realizing a sufficient return is one thing, but the maximization of that return is another, especially considering the way in which the aggregate effects of this maximizing pursuit can generate CMR [22]. Indeed, leaving rentable or saleable housing units off the market can be done for myriad reasons, some of which are not necessarily speculative or driven by profit-motives [69]. In countries with declining populations, or where demand is stagnant or insufficient to even ensure acceptable rates of return, some landowners may not have another option (i.e., Japan) [106]. However, in countries like the US where there is insufficient supply vis-à-vis demand across many metropolitan regions [14], we argue that sympathy for the victims of this behavior should outweigh the unfettered ability of the landowner to withhold supply, regardless of whether this is the outcome of criminal behavior or the individual pursuit to maximize one's rate of return.

RealPage's collusion-facilitating agenda is also based on a favorable regulatory environment in the US that legally permits generous (if not unlimited) rent increases and, generally does not intervene in a landowner's ability to speculate with their property. The RealPage example is, in short, price-gauging *par excellence*, and (re)productive of existing (and increasingly stark) patterns of socio-economic segregation and socio-spatial polarization [12,23] in the urban regions that RealPage's clients have been most active. However, legislation is already being proposed in the US that would ban mergers between information-coordinating companies as well as property owners coordinating rents and housing supply information [97]. Other similar legislation has been passed in the European Union, China, Russia, and beyond [35]. This indeed is a good start, as these legislative interventions outline what kind of algorithmically informed behavior should be illegal, and the consequences faced by perpetrators.

However, if the FTC were serious about circumventing the conditions that give rise to less explicit forms of collusion (from intra- to inter-urban scales), we suggest a number of regulatory policies in effect in many other countries that might also be considered, such as stronger tenant rights legislation, including rent control, strong integrated social housing programs, anti-speculation taxes, and processes of public land development. First, we propose that landlords should not be able to increase rent or deny lease renewals unless under very specific reasons that can only be granted in a court, which has long been institutionalized in Japan (and where evicting tenants is legally much more difficult) [107]. Indeed, while rent control legislation has been recently implemented in US states like Oregon and California, these examples are still the exception in the US. Rent control continues to be implemented more significantly across the rest of the industrialized world [48]. Limiting how much rent can be increased could not only shatter RealPage's *raison d'être* but it could also significantly limit the amount of realizable CMR that is attributable to both tacit and

non-collusive modes of cartelistic behavior, which is predicated on the generous if not unlimited capacity to increase rents. This would be sharply limited (if even possible) under rent control.

Indeed, supply-reduction could be a potential response to rent control among landlords who sell their properties to developers who convert them to owner-occupied (or any reduced housing production that may result) [48], as landlord coalitions have historically threatened will happen if rent control is passed [69]. However, many cities have historically addressed any real or perceived housing shortages that may result from rent control through the kind of integrated and substantive social housing programs found in countries like Austria, Denmark, Germany, and the Netherlands, something that does not exist in the US. The real estate industry's response, however, is not social housing but to abolish regulations and costs related to development, making it supposedly easier for them to produce more affordable housing. Building more means greater supply, and reduced prices; regulation is the problem, not the solution, so this trope goes. This routinely propagated thesis, however, has long been shown to be problematic for myriad reasons [48,108]. In short, there is no guarantee that building more (which, in the US, is usually priced to higher-income segments) will result in reduced prices across the board, and especially for lower-income populations, as prices can just as easily rise after supply increases [109]. Condo conversion bans, among other regulatory interventions, can also work to reduce any landlord-induced supply-reduction that stems from rent control [48]. However, rent control, we argue, is best implemented in conjunction with strong social housing programs where non-profit or municipal housing associations are responsible for the production, maintenance, and allocation of subsidized housing units.

For example, as of 2019, social housing constituted 44 percent of the housing stock in Vienna, Austria [48,110]. Here, both low- and middle-income residents are eligible for entry, and the housing stock itself represents a mix of different housing types that are much better maintained and are not nearly as stigmatized as public housing has historically been in the US [110]. Moreover, 77 percent of Vienna's private rental market is rent-controlled [48]. Social housing programs that are competitive with private rental markets have shown their capacity to counter the kind of supply reduction that might result from rent control or at least protect the most vulnerable tenants from such speculative supply-restrictive practices [111]. We argue that the pursuit of CMR, regardless of whether it is pursued via explicit, tacit, or non-collusive intent, has little room to operate in this kind of housing system.

Perhaps more practical in a country like the US, where the notion of social housing seems far from representing a politically viable legislative option, is the kind of land-banking and public land development programs found in many European cities (i.e., Copenhagen and Hamburg) [112,113] and across East Asia (i.e., Singapore, Hong Kong, and Japan) [50,112]. Here, public land is consolidated within a public development corporation with the purpose of catalyzing development as a means of financing the production and maintenance of public services and assets, e.g., public transit systems and affordable housing stock [50,112,113]. Indeed, this kind of program can potentially entail the pursuit of CMR by the state, but insofar as the public revenue that is realized by the state via such development processes is deployed to support sufficient social safety nets, then we argue that any harmful effects of pursuing CMR in the non-regulated housing sector are muted.

We also suggest the potential of "anti-speculation" taxes in the form of steep fines (or worse) for withholding otherwise rentable units or developable land from circulation past a certain period of time, and in contexts where housing demand is increasing and supply is insufficient. This would mitigate against the kind of speculative supply-restrictive practices that can result from either explicit, tacit, or non-collusive regimes of CMR. Of

course, these kinds of policies are likely to face steep uphill battles from the US real estate industry and beyond, as clearly demonstrated by Anderson et al. [48]. The outcome will hinge on a multi-tiered educational campaign and cultural change that leads to legislative action that sufficiently upends the possibility for explicit, tacit, and non-collusive forms of CMR to manifest in the first place and, thus, protects the most vulnerable, low-income, and increasingly middle-income tenants from suffering worsening forms of housing precarity and marginality.

Author Contributions: Conceptualization, A.J.Z. and M.B.A.; methodology, A.J.Z.; validation, A.J.Z.; formal analysis, A.J.Z. and M.B.A.; investigation, A.J.Z.; resources, A.J.Z. and M.B.A.; data curation, A.J.Z.; writing—original draft preparation, M.B.A. and A.J.Z.; writing—review and editing, M.B.A. and A.J.Z.; supervision, M.B.A.; project administration, M.B.A. All authors have read and agreed to the published version of the manuscript.

Funding: The research presented in this paper was supported by EWUs 2024-25 Creative and Scholarly Works Summer Research Grant.

Data Availability Statement: All data presented in the paper is publicly available. See the references section for details.

Conflicts of Interest: The authors declare no conflicts of interest.

References

1. Walks, A.; Soderberg, S. The New Urban Displacements? Finance-Led Capitalism, Austerity, and Rental Housing Dynamics. *Urban Geogr.* **2021**, *42*, 571–582. [CrossRef]
2. Tapp, R.; Peiser, R. An antitrust framework for housing. *Environ. Plan. A* **2023**, *55*, 562–582. [CrossRef]
3. Fields, D. Constructing a New Asset Class: Property-led Financial Accumulation after the Crisis. *Econ. Geogr.* **2018**, *94*, 118–140. [CrossRef]
4. Ward, C.; Swyngedow, E. Neoliberalisation from the ground up: Insurgent capital, regional struggle, and the assestisation of land. *Antipode* **2018**, *50*, 1077–1097. [CrossRef]
5. Tapp, R. From the state to the shareholder: Rent and the production of shareholder value in real estate. *Antipode* **2020**, *52*, 867–887. [CrossRef]
6. Raymond, E.; Duckworth, R.; Miller, B.; Lucas, M.; Pokharel, S. From Foreclosure to Eviction: Housing Insecurity in Corporate-Owned Single-Family Rentals. *Cityscape A J. Policy Dev. Res.* **2018**, *20*, 159–188.
7. Teresa, B. New dynamics of rent gap formation in New York City rent-regulated housing: Privatization, financialization, and uneven development. *Urban Geogr.* **2019**, *40*, 1399–1421. [CrossRef]
8. Hochstenbach, C.; Wind, B.; Arundel, R. Resurgent landlordism in a student city: Urban dynamics of private rental growth. *Urban Geogr.* **2021**, *42*, 769–791. [CrossRef]
9. Christophers, B. Mind the rent-gap: Blackstone, housing investment and the reordering of urban rent surfaces. *Urban Stud.* **2022**, *59*, 698–716. [CrossRef]
10. Lees, L.; Shin, H.; Lopez-Morales, E. *Planetary Gentrification*; Polity: Cambridge, UK, 2016.
11. Slater, T. Planetary Rent Gaps. *Antipode* **2017**, *49*, 114–137. [CrossRef]
12. Wilson, D.; Anderson, M. The Hyper-Polarized City: New Insights from Racial Economy. *Frontiers in Sustainable Cities*. 2022. Available online: <https://www.frontiersin.org/research-topics/23277/the-hyper-polarized-city-new-insights-from-racial-economy#overview> (accessed on 11 August 2025).
13. Desmond, M. *Evicted*; Broadway Books: New York, USA, 2016.
14. Colburn, G.; Aldern, C. *Homelessness Is a Housing Problem: How Structural Factors Explain US Patterns*; University of California Press: Berkeley, CA, USA, 2022.
15. Ezrachi, A.; Stucke, M. *Virtual Competition: The Promise and Perils of the Algorithm-Driven Economy*; Harvard University Press: Cambridge, MA, USA, 2016.
16. Schwalbe, U. Algorithms, Machine Learning, and Collusion. *J. Compet. Law Econ.* **2018**, *14*, 568–607. [CrossRef]
17. Calvano, E.; Calzolari, G.; Denicolo, V.; Harrington, J.; Pastorello, S. Protecting consumers from collusive prices due to AI. *Science* **2020**, *27*, 1040–1042. [CrossRef] [PubMed]
18. Klein, T. Autonomous algorithmic collusion: Q-learning under sequential pricing. *RAND J. Econ.* **2021**, *52*, 538–599. [CrossRef]
19. Bar-Gill, O.; Sunstein, C.; Talgam-Cohen, I. Algorithmic Harm in Consumer Markets. *J. Leg. Anal.* **2023**, *15*, 1–47. [CrossRef]

20. Soja, E. *Seeking Spatial Justice*; University of Minnesota Press: Minneapolis, MN, USA, 2010.
21. Navarro, G. v. RealPage, Inc. et al., and Defendants. United States District Court Western District of Washington Seattle. Class Action Complaint Filed 2 November 2022. Available online: <https://dockets.justia.com/docket/washington/wawdce/2:2022cv01552/315982> (accessed on 11 August 2025).
22. Harvey, D. Class monopoly-rent, finance capital, and urban revolution. *Reg. Stud.* **1974**, *8*, 239–255. [\[CrossRef\]](#)
23. Anderson, M.; Hansen, E.; Scully, J. Class monopoly rent and the urban sustainability fix in Seattle’s South Lake Union District. *Environ. Plan. A* **2022**, *54*, 1112–1129. [\[CrossRef\]](#)
24. Wyly, E.; Moos, M.; Hammel, D. Race, class, and rent in America’s Subprime cities. In *Subprime Cities: The Political Economy of Mortgage Markets*; Aalbers, M., Ed.; John Wiley & Sons: Hoboken, NJ, USA, 2012; pp. 242–289.
25. Anderson, M. Class monopoly rent and the redevelopment of Portland’s Pearl District. *Antipode* **2019**, *51*, 1035–1056. [\[CrossRef\]](#)
26. Revington, N. Age segregation, intergenerationality, and class monopoly rent in the student housing submarket. *Antipode* **2021**, *53*, 1228–1250. [\[CrossRef\]](#)
27. Nethercote, M. Monopoly dynamics and the rise of UK single-family rental. *Geoforum* **2024**, *148*, 103807. [\[CrossRef\]](#)
28. Chan, J. Algorithmic collusion and Australian competition law: Trouble ahead for the national electricity market? *UNSW Law J.* **2021**, *44*, 1365–1408. [\[CrossRef\]](#)
29. Assad, S.; Clark, R.; Ershov, D.; Xu, L. Algorithmic pricing and competition: Empirical evidence from the German retail gasoline market. In *CESifo Working Paper, No. 8521*; Center for Economic Studies and Ifo Institute (CESifo): Munich, Germany, 2024.
30. Rijo, L. German Regulators Challenge Amazon Marketplace Pricing Policies. PPC: Land. 2025. Available online: <https://ppc.land/german-regulators-challenge-amazon-marketplace-pricing-policies/> (accessed on 25 June 2025).
31. Hospitality. Today. Available online: <https://www.hospitality.today/article/hotel-giants-take-on-booking-com-in-landmark-lawsuit> (accessed on 25 June 2025).
32. Fields, D.; Rogers, D. Towards a critical housing studies research agenda on platform real estate. *Hous. Theory Soc.* **2021**, *38*, 72–94. [\[CrossRef\]](#)
33. Fields, D. Automated landlord: Digital technologies and post-crisis financial accumulation. *Environ. Plan. A* **2022**, *54*, 160–181. [\[CrossRef\]](#)
34. Rogers, D.; Maalsen, S.; Wolifson, P.; Fields, D. Proptech and the private rental sector: New forms of extraction at the intersection of rental properties and platform rentierisation. *Urban Stud.* **2024**, *61*, 2778–2794. [\[CrossRef\]](#)
35. Girich, M.; Levashenko, A. Algorithmic collusion: Comparative analysis of regulation in Russia and beyond. *Int. Organ. Res. J.* **2024**, *19*, 138–158.
36. Christophers, B. *Rentier Capitalism: Who Owns the Economy, and Who Pays for It?* Verso: London, UK, 2020.
37. Shaw, J. Platform real estate: Theory and practice of new urban real estate markets. *Urban Geogr.* **2020**, *41*, 1037–1064. [\[CrossRef\]](#)
38. Wainwright, T. Rental proptech platforms: Changing landlord and tenant power relations in the UK private rental sector? *Environ. Plan. A* **2023**, *55*, 339–358. [\[CrossRef\]](#)
39. Maalsen, S.; Rogers, D.; Wolifson, P. The social lives of rent proptech: Entanglements between capitalist, care, and techno-utopian values. *Environ. Plan. D* **2024**, *42*, 476–491. [\[CrossRef\]](#)
40. McElroy, E. The work of landlord technology: The fictions of frictionless property management. *Environ. Plan. D* **2024**, *42*, 456–475. [\[CrossRef\]](#)
41. Safransky, S. Geographies of algorithmic violence: Redlining the smart city. *Int. J. Urban Reg. Res.* **2020**, *44*, 200–218. [\[CrossRef\]](#)
42. Migozzi, J. The good, the bad and the tenant: Rental platforms renewing racial capitalism in the post-apartheid housing market. *Environ. Plan. D* **2024**, *42*, 534–558. [\[CrossRef\]](#)
43. Swyngedouw, E.; Ward, C. Producing assets: The social strife of land. In *The Social Life of Land*; Wolford, W., Peluso, N., Goldman, M., Eds.; Cornell University Press: Ithaca, NY, USA, 2024.
44. Birch, K.; Cochrane, D. Big tech: Four emerging forms of digital rentiership. *Sci. Cult.* **2022**, *31*, 44–58. [\[CrossRef\]](#)
45. Marx, K. *Capital*; Penguin: London, UK, 1981; Volume 3.
46. Marx, K. *Marx’s Economic Manuscript of 1864–1865*; Brill: Boston, MA, USA, 2015.
47. Ricardo, D. *On the Principles of Political Economy and Taxation*; Liberty Fund, Inc.: New York, NY, USA, 2004.
48. Anderson, M.; Zickefoose, G.; Andrie, T.; Newton, T. Landlord opposition to rent control and the politics of class monopoly rent. *Hum. Geogr.* **2025**, *18*, 46–58. [\[CrossRef\]](#)
49. Harvey, D.; Chatterjee, L. Absolute rent and the structuring of space by governmental and financial institutions. *Antipode* **1974**, *6*, 22–36. [\[CrossRef\]](#)
50. Haila, A. *Urban Land Rent: Singapore as a Property State*; Wiley-Blackwell: Hoboken, NJ, USA, 2016.
51. Park, J. Land rent theory revisited. *Sci. Soc.* **2014**, *78*, 88–109. [\[CrossRef\]](#)
52. Ward, C.; Aalbers, M. The “shitty business of rent”: What’s the point of land rent theory? *Urban Stud.* **2016**, *53*, 1760–1783. [\[CrossRef\]](#)
53. Bernt, M. *The Commodification Gap: Gentrification and Public Policy in London, Berlin, and St. Petersburg*; Wiley: London, UK, 2022.

54. Lipietz, A. A Marxist approach to urban ground rent: The case of France. In *Land Rent, Housing and Urban Planning: A European Perspective*, Ball, M., Ed.; Croom Helm Ltd.: Sydney, Australia, 1985; pp. 129–155.
55. King, R. Capital switching and the role of ground rent: Theoretical problems. *Environ. Plan. A* **1989**, *21*, 445–462. [\[CrossRef\]](#)
56. Jaeger, J. Urban land rent theory: A regulationist perspective. *Int. J. Urban Reg. Res.* **2003**, *27*, 233–249. [\[CrossRef\]](#)
57. Economakis, G. On absolute rent: Theoretical remarks on Marx's analysis. *Sci. Soc.* **2003**, *67*, 339–348. [\[CrossRef\]](#)
58. Sheppard, E.; Barnes, T. Baltimore as truth space: David Harvey, Johns Hopkins, and urban activism. In *Spatial Histories of Radical Geography: North America and Beyond*; Barnes, T., Sheppard, E., Eds.; Wiley: London, UK, 2019; pp. 183–210.
59. Evans, A. On minimum rents: Part 1, Marx and absolute rent. *Urban Stud.* **1999**, *36*, 2111–2120. [\[CrossRef\]](#)
60. Sandemose, J.; Economakis, G. Concerning absolute rent. *Sci. Soc.* **2006**, *70*, 360–370. [\[CrossRef\]](#)
61. Bradley, Q. Artificial scarcity in housebuilding and the impact on affordability: The return of absolute rent. *Antipode* **2023**, *55*, 1110–1127. [\[CrossRef\]](#)
62. Scott, A. Land and land rent: An interpretative review of the French literature. *Prog. Geogr.* **1976**, *9*, 103–145.
63. Evans, A. On monopoly rent. *Land Econ.* **1991**, *67*, 108–110. [\[CrossRef\]](#)
64. Teresa, B. The reemergence of land contracts in Chicago: Racialized class-monopoly rent as a recursive objective in capitalist property markets. *Geoforum* **2022**, *130*, 35–45. [\[CrossRef\]](#)
65. Evans, A. On minimum rents: Part 2, a modern interpretation. *Urban Stud.* **1999**, *36*, 2305–2315. [\[CrossRef\]](#)
66. Waldron, R. Financialization, urban governance and the planning system: Utilizing 'development viability' as a policy narrative for the liberalization of Ireland's post-crash planning system. *Int. J. Urban Reg. Res.* **2019**, *43*, 685–704. [\[CrossRef\]](#)
67. Fernandez, R.; Hofman, A.; Aalbers, M. London and New York as a safe deposit box for the transnational elite. *Environ. Plan. A* **2016**, *48*, 2443–2461. [\[CrossRef\]](#)
68. Wijburg, G.; Aalbers, M.; Conte, V.; Stoffelen, A. Tourism-led rentier capitalism: Extracting rent and value from tourism property investment. *Antipode* **2024**. [\[CrossRef\]](#)
69. Hoekstra, J.; Vakili-Zad, C. Housing vacancy rates and rising house prices: The Spanish paradox. *J. Soc. Econ. Geogr.* **2010**, *102*, 55–71.
70. Paccoud, A.; Hesse, M.; Becker, T.; Górczyńska, M. Land and the housing affordability crisis: Landowner and developer strategies in Luxembourg's facilitative planning context. *Hous. Stud.* **2022**, *37*, 1782–1799. [\[CrossRef\]](#)
71. Adams, D.; Leishman, C.; Moore, C. Why not build faster? Explaining the speed at which British house-builders develop new homes for owner-occupation. *Town Plan. Rev.* **2009**, *80*, 291–314. [\[CrossRef\]](#)
72. Tretter, E. The cultures of capitalism: Glasgow and the monopoly of culture. *Antipode* **2009**, *41*, 111–132. [\[CrossRef\]](#)
73. Lopez-Morales, E. Gentrification by Ground Rent Dispossession: The Shadows Cast by Large-Scale Urban Renewal in Santiago de Chile. *Int. J. Urban Reg. Res.* **2011**, *35*, 330–357. [\[CrossRef\]](#)
74. Charnook, G.; Purcell, T.; Ribera-Fumaz, R. City of rents: The limits to the Barcelona model of urban competitiveness. *Int. J. Urban Reg. Res.* **2014**, *38*, 198–217. [\[CrossRef\]](#)
75. Anderson, M. Class monopoly rent and the contemporary neoliberal city. *Geogr. Compass* **2014**, *8*, 13–24. [\[CrossRef\]](#)
76. Yang, D.; Cheng, J. Financialising space through transferable development rights: Urban renewal, Taipei style. *Urban Stud.* **2018**, *55*, 1943–1966. [\[CrossRef\]](#)
77. Zheng, X.; Xie, X.; Zheng, L. Land market concentration, developers' pricing decisions, and class monopoly rent in urban China. *Land Use Policy* **2023**, *132*, 106794. [\[CrossRef\]](#)
78. Anderson, M.; Arms, Z. Business improvement districts, class turf war and the strategic weaponisation of class monopoly rent. *Urban Stud.* **2023**, *60*, 238–255. [\[CrossRef\]](#)
79. Purcell, T.; Loftus, A.; March, H. Value-rent-finance. *Prog. Hum. Geogr.* **2020**, *44*, 437–456. [\[CrossRef\]](#)
80. Teresa, B.; Howell, K. Eviction and segmented housing markets in Richmond, Virginia. *Hous. Policy Debate* **2021**, *31*, 627–646. [\[CrossRef\]](#)
81. Strauss, K. Beyond crisis? Using rent theory to understand the restructuring of publicly funded seniors' care in British Columbia, Canada. *Environ. Plan. A* **2023**, *55*, 1506–1527. [\[CrossRef\]](#)
82. Kofiati, I. Landscapes on Hold: Opening up Monopoly Rent Gaps on Crete's Cape Sidero. *Int. J. Urban Reg. Res.* **2022**, *46*, 576–593. [\[CrossRef\]](#)
83. Lan, C.; Chen, J. Urban nostalgia, regeneration, and urban cultural monopoly rent: 'Nanjing 1912' and its branding bubbles. *Int. J. Urban Reg. Res.* **2022**, *46*, 954–972. [\[CrossRef\]](#)
84. Houghton, T. On the nature of real estate, monopoly and the fallacies of 'monopoly rent'. *Int. J. Urban Reg. Res.* **1993**, *17*, 260–273. [\[CrossRef\]](#)
85. Department of Justice. Available online: <https://www.justice.gov/atr/antitrust-laws-and-you> (accessed on 25 June 2025).
86. Ohlhausen, M. *Should We Fear the Things That Go Beep in the Night? Some Initial Thoughts on the Intersection of Antitrust Law and Algorithmic Pricing*; US Federal Trade Commission: New York, NY, USA, 2017.

87. Christophers, B. Competition, law, and the power of (imagined) geography: Market definition and the emergence of too-big-to-fail banking in the United States. *Econ. Geogr.* **2014**, *90*, 429–450. [CrossRef]
88. Christophers, B. The Law's Markets. *J. Cult. Econ.* **2015**, *8*, 125–143. [CrossRef]
89. Denzin, N.; Lincoln, Y. *Handbook of Qualitative Research*; Sage: London, UK, 1994.
90. Fairclough, N. *Analyzing Discourse: Textual Analysis for Social Research*; Routledge: New York, NY, USA, 2003.
91. Seidman, I. *Interviewing as Qualitative Research: A Guide for Researchers in Education and the Social Sciences*; 3rd ed.; Teachers College Press: New York, NY, USA, 2006.
92. Yin, R. *Case Study Research: Design and Methods*; Sage: Thousand Oaks, CA, USA, 2014.
93. Lindlof, T.; Taylor, B. *Qualitative Communication Research Methods*; Sage: Thousand Oaks, CA, USA, 2010.
94. Vogell, H.; Coryne, H.; Little, R. Rent Going Up? One Company's Algorithm Could Be Why. ProPublica 15 October 2022. Available online: <https://www.propublica.org/article/yeildstar-rent-increase-realpage-rent> (accessed on 25 June 2025).
95. Vogell, H. We Found That Landlords Could Be Using Algorithms to Fix Rent Prices. Now Lawmakers Want to Make the Practice Illegal. ProPublica 30 January 2024. Available online: <https://www.propublica.org/article/senators-introduce-legislation-stop-landlords-algorithm-price-fixing> (accessed on 25 June 2025).
96. State of Arizona v. RealPage, Inc. and Defendants. The Superior Court of the State of Arizona in and for the County of Maricopa. Complaint Filed on 28 February 2024. Available online: <https://www.azag.gov/sites/default/files/2024-02/RealPage%20Complaint.pdf> (accessed on 25 June 2025).
97. Vogell, H. DOJ Backs Tenants in Case Alleging Price-Fixing by Big Landlords and a Real Estate Tech Company. ProPublica 16 November 2023. Available online: <https://www.propublica.org/article/doj-backs-tenants-price-fixing-case-big-landlords-real-estate-tech> (accessed on 25 June 2025).
98. District of Columbia v. RealPage, Inc. and Defendants. In the Superior Court of the District of Columbia, Civil Division. Complaint Filed on 1 November 2023. Available online: <https://oag.dc.gov/sites/default/files/2023-11/DC%20OAG%20RealPage%20Complaint%20-%20Filed.pdf> (accessed on 25 June 2025).
99. Vogell, H. Company That Makes Rent-Setting Software For Apartments Accused Of Collusion, Lawsuit Says. The Daily Record 27 October 2022. Available online: <https://www.propublica.org/article/realpage-accused-of-collusion-in-new-lawsuit> (accessed on 25 June 2025).
100. Shubina, K. United States. Global Property Guide. 22 July 2025. Available online: <https://www.globalpropertyguide.com/north-america/united-states/rental-yields#:~:text=The%20average%20gross%20rental%20yield%20in%20the,Q3%202024%2C%20the%20rental%20yield%20was%206.10%25> (accessed on 7 August 2025).
101. Sisco, J.; O'Donnell, K. Feds Sue Software Company for Enabling Nationwide Collusion on Rent. Politico 23 August 2024. Available online: <https://www.politico.com/news/2024/08/23/feds-sue-software-company-rent-collusion-00176154> (accessed on 25 June 2025).
102. Giles, D. Neutralizing homelessness, 2015: The story to date. *Urban Geogr.* **2017**, *38*, 332–340. [CrossRef]
103. Alvarez and Halliwell v. RealPage, Inc., and Defendants. United States District Court Western Washington District of Washington at Seattle. Complaint Filed 6 December 2022. Available online: <https://law.justia.com/cases/federal/district-courts/washington/wawdce/2:2022cv01617/316204/21/> (accessed on 25 June 2025).
104. RealPage, Inc. Realpage's Response to False Allegations Concerning its Revenue Management Software. Available online: <https://static1.squarespace.com/static/6633d03228b95a657c918181/t/667179ac7e50b74b19777827/1718712748807/RealPageStatement.pdf> (accessed on 25 June 2025).
105. Scarcella, M. First Settlements Reached in RealPage Rental Price-Fixing Lawsuits. Reuters. 2024. Available online: <https://www.reuters.com/legal/litigation/first-settlements-reached-realpage-rental-price-fixing-lawsuits-2024-02-05/> (accessed on 3 March 2025).
106. Suzuki, M.; Asami, Y. Shrinking housing market, long-term vacancy, and withdrawal from housing market. *Asia-Pac. J. Reg. Sci.* **2020**, *4*, 619–638. [CrossRef]
107. Sugano, T. Gentrification not as a “dirty word”: A brief history of recent residential rights in Tokyo, Japan. In *Diversity of Urban Inclusivity: Perspectives Beyond Gentrification in Advanced City-Regions*; Mizuuchi, T., Kornatowski, G., Fukumoto, T., Eds.; Springer Nature Singapore: Singapore, 2023; pp. 28–40.
108. Rodriquez-Pose, A.; Storper, M. Housing, urban growth and inequalities: The limits to deregulation and upzoning in reducing economic and spatial inequality. *Urban Stud.* **2020**, *57*, 223–248. [CrossRef]
109. Beitel, K. Circuits of capital, ground rent and the production of the built environment: A (new) framework for analysis. *Hum. Geogr.* **2016**, *9*, 27–42. [CrossRef]
110. Ruddick, R. SPUR Talk: Housing Lessons from Vienna. StreetsblogSF. 11 January 2023. Available online: <https://sf.streetsblog.org/2023/01/11/spur-talk-housing-lessons-from-vienna> (accessed on 14 December 2024).
111. Slater, T. From displacements to rent control and housing justice. *Urban Geogr.* **2021**, *42*, 701–712. [CrossRef]

112. Bruns-Berentelg, J.; Noring, L.; Grydehoj, A. Developing urban growth and urban quality: Entrepreneurial governance and urban redevelopment projects in Copenhagen and Hamburg. *Urban Stud.* **2022**, *59*, 161–177. [[CrossRef](#)]
113. Majoor, S. Progressive planning ideals in a neo-liberal context, the case of Ørestad Copenhagen. *Int. Plan. Stud.* **2008**, *13*, 101–117. [[CrossRef](#)]

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.