



Rent Control, Market Segmentation, and Misallocation: Causal Evidence from a Large-Scale Policy Intervention ☆

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Abstract

This paper studies market segmentation that arises from the introduction of rent control. When a part of the market remains unregulated, theory predicts an increase of free-market rents due to the misallocation of households to dwellings. To document this mechanism empirically, we study a large-scale policy intervention in the German housing market. We isolate the misallocation mechanism by exploiting temporal variation in treatment dates in an event study design. We find a robust positive spillover effect of rent control on free-market rents. Moreover, mobility of renters living in rent-controlled units decreased. [91 words]

Introduction

Regulators frequently intervene in the price mechanism of markets, for example in form of minimum wages or price controls for fuels, agricultural products, and pharmaceuticals. In particular, housing markets are many times subject to rent controls, often accompanied by long-

standing, emotional debates amongst scholars and policymakers, centered on distributional issues. If not at the national level, rent controls exist at the local level in many countries, e.g., in the United States. Nearly every textbook on housing and real estate economics covers this topic (see, e.g. McDonald, McMillen, 2010, O'Sullivan, Irwin, 2007). Affordable housing is also a major issue in election campaigns. For example, in 1948, U.S. President Harry S. Truman won the White House by campaigning for the *Fair Deal*, which included a promise to resolve housing shortages (VonHoffman,2000). Even in recent years, affordable housing remains a vibrantly discussed topic: In light of sharply increasing rents in urban areas in Germany, the Social Democrats succeeded in launching a debate around the need for stricter rent controls in the 2013 German Bundestag elections (Knaupetal., 2013) and eventually managed to introduce rent controls 2015. In the 2021 Bundestag election campaign, several parties – including the Social Democrats – advocate tighter rent control measures. In the UK, increases in rents and rising shares of privately owned rental housing fuel the ongoing debate on rent control (Wilson,2017), and housing played a major role in the 2015 UK general elections (Kelly,2015). Inspired by the German rent control regime, Lille and Paris¹ (France) introduced similar regulations in 2014 and 2015, and in May 2019, the government of Catalonia (Spain) proposed to introduce a literal copy of German 2015 rent control regulations, although the law never came into force.

In this paper, we study market segmentation that arises from the introduction of a price ceiling in the market for rental housing in Germany in 2015. This policy intervention can be considered to be a poster-child of so-called “second-generation rent control”.² The regulation establishes a rent ceiling only for a part of the market, leaving the price mechanism in the rest intact. Moreover, in contrast to other rent control policies studied previously, the German rent cap is a pure price control. It did not impose other constraints on landlords that could also influence landlord or renter behavior. This puts us in the unique position to study important theoretical mechanisms triggered by the introduction of a price cap. As such, the German rent control policy represents an excellent test-case to empirically evaluate the causal effects of rent control on regulated and free-market rents, housing service consumption, and housing supply.

We base our empirical analysis on a standard comparative-static model of a divided (controlled/free) housing market (see, e.g. McDonald, McMillen, 2010, Skak, Bloze, 2013). We formalize and generalize the graphical representation to establish that an increase in free-market rents in response to rent control may indicate misallocation of households to housing units. Furthermore, the size of the welfare loss related to misallocation increases with the strength of the spillover. The mechanism is as follows: Rent control allows some households, which otherwise would have been unwilling to rent a unit in the market, to compete for rent-controlled units, thereby replacing other households with stronger preferences for living in the rent-controlled market. These latter households either have to leave the local market, or they have to move to the free-market segment, which pushes up the free-market rental price. As an alternative explanation, a reduction of the rent-controlled housing stock may also push up free-market prices.

For a number of reasons, many economists oppose rent regulations.³ This paper sheds light on two important aspects from the economic debate revolving around price controls in general and the effects of rent controls specifically.

First, we contribute to the small, but growing literature that analyzes the causal effects of rent controls. In a recent paper, Diamond et al. (2019) finds that tenancy rent control reduces household mobility and the size of the rental housing stock, and leads to city-wide increases of rents. Results from Sims (2007) and Autoret al. (2014) point in the direction that there is only a small effect of rent control on construction activity, but a shift of dwellings from rental to owner-occupied status and a deterioration in the quality of existing rental units (Sims, 2007). Moreover, the impact on the price of the non-controlled housing stock is negative and substantial (Autoret al., 2014).⁴ Spillovers from the regulated part of the market to other parts work through various channels. Autoret al. (2014) propose two channels that may give rise to these same-sign spillovers: externalities through (i) higher maintenance and (ii) spatial sorting by income. The analysis of the 25 years lasting Cambridge rent control suggests that the maintenance and household sorting channels dominate in the long-run. In contrast, we isolate an opposite-sign spillover effect. Arguably, our short-run perspective allows us to shut down the more inert maintenance and sorting channels, and it minimizes the (negative) response of the supply of rental housing (as in Diamond et al., 2019). Moreover, the paper provides first evidence on the effects of rent control in a European housing market with a high share of rental housing.

Second, based on an excellent housing market example, we provide quasi-experimental evidence on the distorting effects of price controls on the allocation of goods (Glaeser, Luttmer, 2003, Davis, Kilian, 2011, Wang, 2011). Glaeser and Luttmer (2003) argue that traditional welfare analysis often ignores welfare losses from misallocation, i.e., from the allocation of goods to buyers who do not value these goods the most. So far, the literature on price controls focuses mainly on quantity responses, e.g., in the labor market in response to minimum wages (Card, Krueger, 1994, Stewart, 2004, Dube, Lester, Reich, 2010, Dube, Lester, Reich, 2016, Monras, 2019), a point noted already by Glaeser and Luttmer (2003). We demonstrate theoretically that market segmentation—induced by price regulation—may cause substantial misallocation. Moreover, we document empirically that the observed spillover to free-market rents is likely a consequence of misallocation, and we provide evidence discounting plausible alternative explanations for the spillover.

Quasi-experimental evidence for misallocation remains scarce, particularly in housing market context. The findings of Glaeser and Luttmer (2003) and Skak and Bloze (2013) are based on cross-sectional variation between regulated and free local markets, requiring relatively strong, non-testable assumptions for identification. For example, there may be income-based sorting into locations with and without rent control, and between controlled and free-market segments in the same location (Autoret al., 2014). Housing demand and rental housing supply may also differ between locations for reasons that are not captured by the data. In such settings, it is hard to disentangle misallocation from other determinants of housing services consumption.⁵

This paper considers a particular form of misallocation: the displacement of incumbent residents from the local housing market due to the introduction of a partial rent control. This form of displacement is inefficient in a world where residents have idiosyncratic location preferences for the local market that may capture many different things such as family ties or the match between specialized skills and the local industry structure. It does not require heterogeneity in housing units within the controlled part of the market, nor across the controlled and free segments of the local housing market. While this form of misallocation is discussed theoretically for first-generation rent controls in Glaeser and

Luttmer(2003), empirical evidence is lacking. The paper is the first to establish a causal link between rent regulation and this form of misallocation.

We exploit the spatial, temporal, and within-market variation generated by the law to identify the effects of the regulation, employing both an event study and a difference-in-differences strategy. In the analysis, we focus on three aspects: First, we analyze the impact of the rent cap on regulated and unregulated rents within a housing market. We focus on the short-run effects and find that regulated rents decreased immediately after the rent cap became effective, while rents in the free-market segment *increased* after a lag of one to two months. Second, we assess the demand responses to the regulation. We analyze how households adjusted housing service consumption (conditional on their incomes), and we investigate changes in renter mobility within, out of, and into the regulated local market. Misallocation may manifest itself in both of these dimensions. Lower prices may induce households to consume more housing services, and lower prices may affect moving decisions by changing the relative attractiveness of different housing choices. We use data from the German Socio-Economic Panel (GSOEP) to investigate this. The results are consistent with the misallocation hypothesis. We find no indication that housing expenditure shares of recent movers into rent-controlled units decreased – despite the lower rental prices –, and we document reduced mobility out of the regulated market. Third, we focus on the supply side effects of the rent cap. We do not find evidence for negative short-run impacts on rental housing supply in the regulated segment, thereby discounting alternative explanations for the estimated spillover. Our analysis further reveals that a larger number of small residential buildings were demolished in 2016 in order to be replaced with a new residential building. In an accompanying study (Mense et al., 2019), we find evidence that prices for building lots increased in regulated markets. Both findings are consistent with positive revenue expectations for new, unregulated residential buildings. Finally, the numbers of housing units built in 2016 or 2017 were not affected significantly.

Our results are important for the following reasons. First, price controls are ubiquitous in housing markets. They typically only apply to part of the market. We provide clean evidence on the rent spillover to the uncontrolled segment that is triggered by such market interventions. Second, we extend the analysis in Glaeser and Luttmer(2003) to partly controlled markets and provide a complementary angle on the misallocation mechanism induced by rent control. While Glaeser and Luttmer(2003) focus on misallocation of renters to different housing units within the controlled local housing market, the misallocation mechanism studied in this paper works through the displacement of renters from the controlled segment. Third, we provide evidence on the short-run supply response to the rent cap. The spillover to free-market rents represents an incentive for developers to demolish old units and to build new rental housing. This channel has not been considered in previous work, but it likely affects the future size of the rent-controlled stock, the uncontrolled segment, and the overall size of the local rental market—working in opposition directions as other channels documented by the literature.

The remainder of this paper is structured as follows: In the next section, we present a simple theoretical framework that helps to interpret the effect of rent control on free-market rents. Then, we outline the institutional background and stylized facts regarding recent developments in the German housing market in Section 3. In Section 4, we present our empirical strategy and the results. In the final section, we discuss our findings.

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Section snippets

The effects of rent controls on rents in regulated and unregulated markets

The standard prediction of a comparative-static model of the housing market is that a cap on rents reduces revenues for landlords, house prices, and incentives to invest. In the long-run, the housing stock declines. As some authors argue, this result is not straight-forward for second-generation rent controls (Arnott, 1995, Olsen, 1988, Olsen, 1988, Kutty, 1996). In particular, settings that divide the market into a regulated and an unregulated segment (e.g., dwellings built before/after a ...

The German rental housing market and institutional setting

After 15 years of stagnation, rents in Germany started to increase rapidly in 2010, while vacancy rates fell, particularly in the urban housing stock. In 2016, rents in newly concluded contracts were on average 23% above the level observed in 2010. This development triggered a debate about growing housing costs in urban areas, which ultimately led to the introduction of second-generation rent control in 2015. In contrast to the existing body of rent regulation in Germany, the 2015 rent control ...

Empirical analysis

In the empirical analysis, we investigate the short-run effects of the German rent cap. Primarily, we seek to establish the opposite-sign spillover to free-market rents as a test of misallocation. To disentangle general market dynamics from the effects of the rent cap, we start with an event study design that identifies both the effect on controlled rents, and the spillover to free-market rents, exploiting the state-specific start dates of the rent cap (see Table 1). As an alternative strategy, ...

Conclusions

Rent controls are still subject to intense debates among scholars and policy makers. We add to this debate by providing causal empirical evidence for the short-run effects of rent controls. Results based on an event study design and a difference-in-differences strategy show consistently that a differentiated, second-generation rent control regime reduces rents in the controlled sector, but triggers rent increases on the free market. Misallocation, which indirectly pushes up demand on the free ...

CRedit authorship contribution statement

Andreas Mense: Conceptualization, Methodology, Software, Validation, Formal analysis, Investigation, Resources, Data curation, Writing – original draft, Writing – review & editing, Visualization, Supervision, Project administration, Funding acquisition. **Claus Michelsen:** Conceptualization, Methodology, Software, Validation, Formal analysis, Investigation, Resources, Writing – original draft, Writing – review & editing, Visualization, Project administration, Funding acquisition. **Konstantin A. ...**

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...We are not aware of other reforms relevant to Airbnb or the rental market that were implemented in Berlin around these dates. The arguably most relevant other reform is the introduction of the “second-generation rent control” (see Mense et al., 2023 for more details) that was implemented in June 2015. Hence, all our results are for time periods in which the rent control was already in place....

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...However, there is evidence that rent control policies can displace housing units from the regulated to non-regulated markets. More specifically, there is evidence that rent control policies displace housing units from the rental market to the homeownership market (Sims, 2007; Diamond et al., 2019; Mense et al., 2019, 2023) or to segments of the rental markets where regulation does not apply, such as renovated units in Germany or condos in San Francisco. We contribute to this literature by analyzing a rent control regulation that, unlike other policies studied, virtually covers the entire rental market....

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