Three Essays on Urban Economics

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Abstract

something something something

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Introduction

Regional inequality has become a topic of considerable importance since the Great Financial Crisis. Much of the recent literature in labor and urban economics has been on the subject of "superstar cities;" the phenomenon where the largest cities undergo rapid growth in income and employment, while smaller ones stagnate and decline.

A major focus of the theoretical and empirical literature has been on the skill-sorting of cities, with skill-biased technical change driving in-migration of skilled labor and rising costs driving out-migration of lower-skilled workers into depressed suburbs and smaller cities.

The rise of superstar cities has led to a consequent crisis of housing in *all* cities of the United States, with increases in homelessness and declines in homeownership and affordability across-the-board, but especially in urban centers of the most productive city-regions. Inter-city inequality becomes reproduced as intra-city inequality, as land values in cities featuring the most growth becomes prohibitively expensive to own or rent, and zoning for density results in the growth of high-rent housing stock instead of providing for mixed-income neighborhoods.

Much of the recent literature on the relationship between housing and regional growth focuses on the elasticity of the housing supply with respect to housing regulations, particularly zoning. Though the theoretical result is relatively straightforward (tight housing regulations cause high land rents, leading to skill sorting), empirical support for this conclusion has been somewhat ambiguous. Relaxation of the political constraints on zoning may (Hsieh and Moretti 2019) or may not (Freemark 2019) have led to a decrease in the cost of housing.

I focus on the role that distributive conflict plays in the creation of urban space and inequality. Rognlie (2015) uses NIPA data to show that the decline in the labor share during the past 30 years seems to be due to an increase in the share going to housing capital, rather than corporate capital (See figures 1 and 2). Similar shifts in the distribution of income can be seen in breakdowns of GDP by metropolitan areas. It is also clear that housing prices and rents have risen rapidly over the same period, in a geographically uneven fashion. The implications of extreme variances in housing costs are widespread; Chetty et al. (2014) and Derenoncourt (n.d.) show that there are place-based effects to human capital mobility, and that high housing costs can lock low-income people out of high-mobility areas.

The mainstream urban economics and inequality literature generally agree that the housing crisis is largely the result of government failure; zoning laws in a particular locale are voted on by constituencies containing incumbent landowners, in whose interest it is to keep growth in the housing stock as low as possible. Those who would benefit from housing expansion, i.e. potential emigrants, obviously cannot vote to influence zoning laws in another city. This leads to

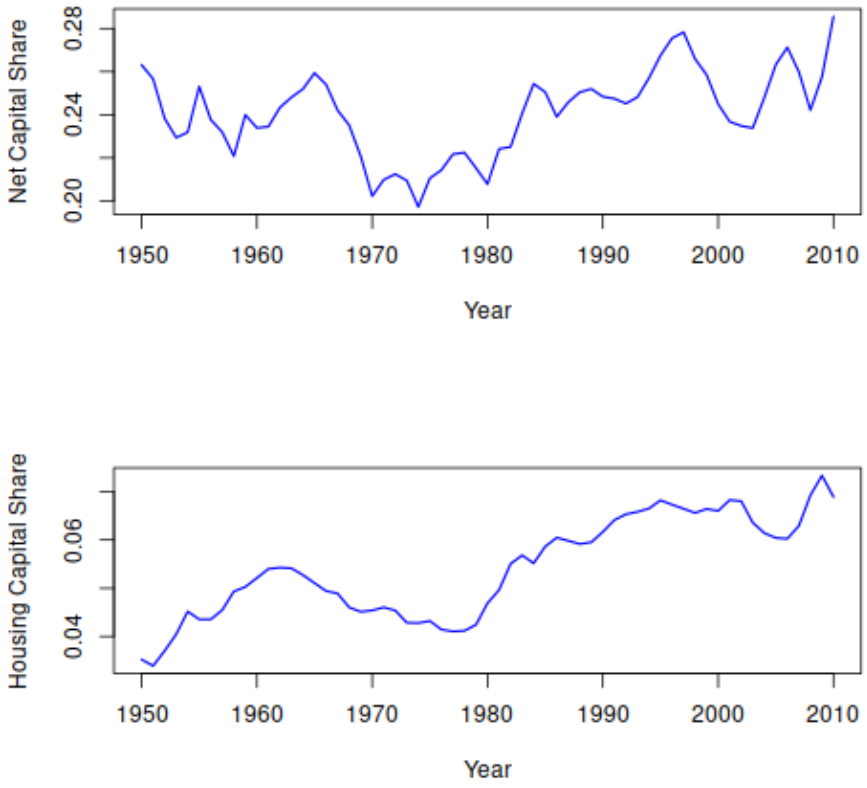

Figure 1: Net Capital Share and Housing Share for the United States. Data from NIPA.

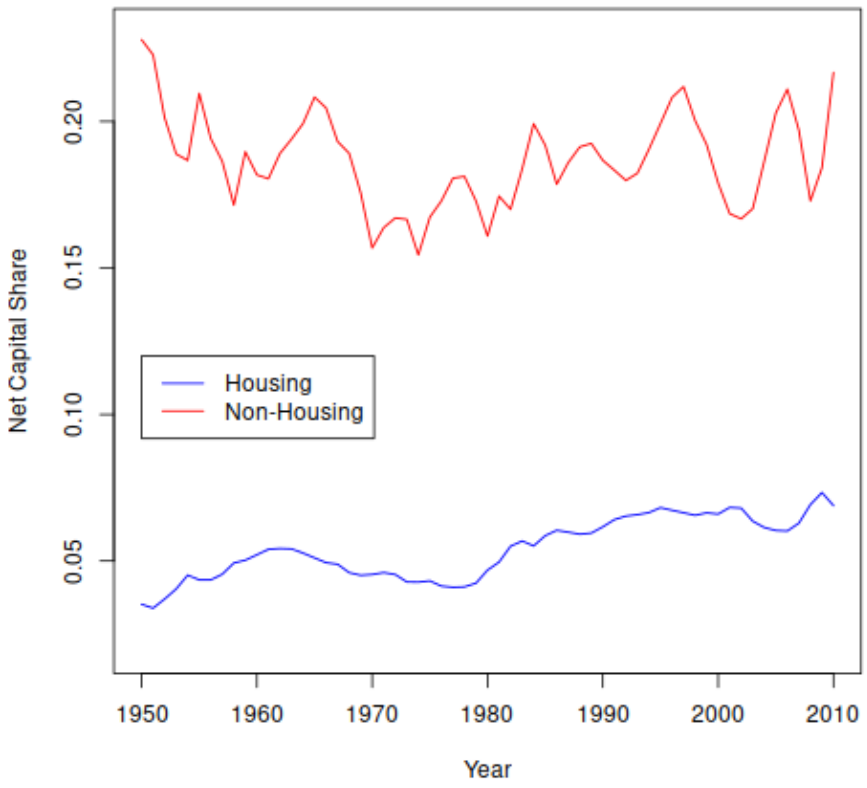

Figure 2: Movements in the Housing and Non-Housing (corporate) capital shares. Data from NIPA.

low-skilled workers being "trapped" in low-productivity cities that sort by skill-biased technical change (Ganong and Shoag 2017).

Much of this literature relies on the spatial equilibrium approach begun by Von Thunen, and assume perfectly competitive markets for land, housing and construction. If this were the case, then divergence between housing prices and construction costs would be an indication of government failure (Glaeser, Gyourko, and Saks 2005). However, the spatial equilibrium approach has real trouble dealing with issues of scale; for example, a construction firm equipped to build in a dense urban region must be considerably more sophisticated and capital-intensive than a firm building in small outlying towns.

In addition, Knoll, Schularick, and Steger (2014) find that 87% of shifts in housing prices in the United States in the last century can attributed to changes in the price of land, rather than housing or other land improvements. So it is unclear whether we can attribute prices in excess of marginal costs solely to regulation or to other factors, such as monopolization or returns to scale. In this dissertation, I use a political economy approach to focus on residential real estate; in particular on distributions between wages, profits, and rents, and the way that the struggles over that distribution plays out over geographic space. I intend to use a variety of approaches, including theoretical argument, historical/descriptive analysis, and econometric analysis.

General Literature Review

[10 sources]

Lefebvre (2003)

Harvey (2018)

On The Housing Question

Research Question: What are the conditions under which increases in income are captured by landlords? Who gains from a relaxation of building restrictions?

Introduction

This is a theoretical essay on the distributional role of real estate in the urban context. I begin with macro data from Rognlie (2015), showing that over the past 30 years, the decline in the labor share can be attributed to increases in income going to housing, in contravention of Kaldor's stylized facts of growth. When looking at metropolitan GDP and housing figures, a few results emerge:

1. The share of of regional GDP going to real estate is increasing, even in cities where real estate is not the primary industry
2. Rent-income ratios in the most productive cities have risen rapidly
3. The construction of new housing has experienced a secular decline, especially within cities with the fastest income growth
4. The composition of new housing construction has changed, reflecting declining homeownership and increased rentership.

In this paper, I build an argument incorporating the critical geography and urban economics traditions. I develop general theoretical questions regarding the role of differential rents, economies of scale, and the level of homeownership, and show that under certain conditions, all of the income growth in a particular region can be captured by landlords, and that in equilibrium, urban land markets under conditions of increasing returns may not clear. The first half of this paper will be a survey of the history of economic thought regarding landlords, rents, and cities, and the second will consist of a formal presentation of the theoretical argument.

Literature Review

[10 sources here]

Engels (1872)

Aalbers and Christophers (2014)

Harvey (1974)

Harvey (2018)

Ryan-Collins, Lloyd, and Macfarlane (2017)

Glaeser and Gottlieb (2009)

Glaeser et al. (2014)

The Classics

Marx & Engels

Marx deals with ground-rent in *Capital, Vol. III*. This is done primarily in the context of agricultural production, though it forms the basis for the analysis of urban property ownership by Engels and later geographers and economists. He begins with the classical political economy premise that "landed property is based on the monopoly by certain persons over definite portions of the globe, as exclusive spheres of their private will to the exclusion of all others." Under capitalist relations, the relationship between the landlord and the industrial

capitalist "…totally separates land an instrument of production from landed property and landowner– *for whom the land merely represents a certain money assessment which he collects by virtue of his monopoly from the industrial capitalist*, the capitalist farmer…" (emphasis mine). In other words, land becomes an expression of monetary value, which represents a claim on the production generated by the capitalist (whether agrarian or industrial), by virtue of the institution of private property– ownership of the land represents a *claim* on the *future productivity* of that land.

This framework has been developed in several ways, particularly by Harvey (2018), addressed below, and Basu (2018). Basu points out that the key to the Marxian (neo-Ricardian?) understanding of land rents in general is that "if the non-produced resource is privately owner, and is limited in quantity, then its owner appropriates an income stream that we call capitalist rent," and applies the dynamics of ground-rent to *all* non-produced resources. Since non-produced resources do not require labor, by definition, then they have no *value* in the Marxian sense. However, they do have *prices*, despite having no value.

Engels (2009) provided the first Marxian analysis of particularly the *housing* question under urban capitalism, starting from the vantage point of the English working class. For Engels, "the housing question relates to problems of quantity (shortage), accessibility/distribution, quality, and affordability. He argued that the conditions of housing at every time should be considered as part of, not separate from, broader economic, social, and political processes," (Obeng-Odoom 2016). In other words, housing dynamics cannot be understood as processes separate from labor market (and, later, financial market) dynamics. The landlord, as private owner of housing, uses the threat of homelessness as a means to extract value from the tenant. This relationship is slightly different than the extraction of surplus value from the tenant farmer in agriculture- in this case, the surplus value is produced in the productive (corporate) sector, and the relative power of landowners, workers, and capitalists determine the resulting distribution of rents, wages, and profits between them.

The key theoretical points that I wish to draw from Marx and Engels is that land rents are the site of distributional conflicts between landlords, peasants, and workers (in agriculture), and between landlords, workers, and capitalists (in industry). More importantly, the landlord-tenant relationship in urban capitalism is in actuality the site of multiple forms of contested exchange operating at different scales. This is a point elaborated on by the Marxist Critical Geography school, which I address further below.

Henry George

While Marx focused on the relationship between Labor and Capital in relatively land-scarce Europe, Henry George directed his analysis against the relationship between Labor and Land in the land-abundant United States. George held that, as against the work of the laborer and the self-discipline of the capitalist, rent

on bare land could increase solely through public investment into infrastructure and amenities, or through natural population growth, encouraging rampant land speculation. At the time, land interests were perceived as holding back the rapid industrialization of the United States. Mirroring the American Transcendentalists of his day, he held that land should either be held in common by all people, as "an endowment from God," (George 2015), or (not so much like the Transcendentalists), the entire value of bare land should be taxed away and used for public investment. The Land Value Tax still remains wildly popular among economists as a way to combat land speculation; while briefly touched on later in this chapter, a full discussion of the LVT is beyond the scope of this dissertation. Abstracting from the uniquely American yeoman ethics of *Progress and Poverty*, the major Georgist theoretical points important to my argument are as follows:

1. *Private ownership of land grants monopoly power over that plot of land, which is part of an absolutely fixed supply.* The somewhat bizarre nature of land *vis a vis* other commodities was also noted by the other classical economists (especially Ricardo). This grants landowners as a class short-side power over any process that requires space (e.g., literally every process), and the power to extract rents over the use of that land in proportion to how necessary and/or valuable that land becomes– for example, landowners who speculated on the future paths of railroad tracks and depots[1]. This idea remains salient (perhaps even more so) during the contemporary period of urban development where economies of scale and agglomeration in cities dictate the degree of *locational monopoly* a particular landlord is able to exercise.

2. *The value of bare land (i.e., absent any improvements such as structures, etc.) is determined by forces outside of any individual landowner's control.* In other words, the landlord realizes both a capital gain and an increase in potential rent when a location becomes desirable, without any action on his or her own part. George saw this as something morally abhorrent, but we can also see that a raise in rents due to a change in locational advantage is a pure redistribution away from other, productive sectors of the economy.

Further, on point (2): The Henry George Theorem[2], first formalized by Arnott and Stiglitz (1979), is now a staple of public finance. It shows that, under

[1] or, for a more modern example, the purchase of plots of land along the U.S.-Mexico border by the founders of Cards Against Humanity, for the purpose of halting President Donald Trump's border wall. In fact, this type use of monopoly power by landlords was so troublesome to the public good, the power of eminent domain was enshrined into the U.S. Constitution under the Fifth Amendment. From a kind of Jeffersonian libertarian outlook, this is a rather shocking (and telling) violation of the "inviolable" right to property.

[2] in its general form (Arnott 2004): "in any constrained Pareto optimal and nontrivial allocation of population in a spatial economy, the aggregate shadow losses from increasing returns to scale activities just equal the aggregate shadow profits from the decreasing returns to scale activities."

certain conditions, aggregate spending on public goods will increase aggregate rent based on land value by at least that amount, thereby leading to calculations of optimal city sizes, among other things. Technical discussion of the HGT and its implications are beyond the scope of this essay, but the salient point I wish to focus on is that the theorem highlights the *externality* problem facing urban planners and would-be city dwellers: each landlord's absolute control over their own personal fiefdom allows them to accrue external benefits from both public and private actions undertaken outside their property. In modern cities, with very powerful agglomeration effects, these externalities could grow to be quite large, as density increases. This potentially points to increasingly severe coordination failures in housing supply.

In sum, the theoretical lines I wish to draw from Henry George are towards **the monopoly pricing power over land**, and **positive externalities as a result of density, scale, and agglomeration.**

David Harvey

Harvey (2018); Harvey (1974) provides a further elaboration on theories of rent put forth by Marx in Vol. II and III of *Capital.* He separates land rent into absolute rent and differential rent, and crucially, places them within the context of space and financial capital. For Harvey, the fundamental tension within capitalism is:

> The logic of capital accumulation produces fixities (the built environment), but as soon as the built environment comes into existence, they become barriers to the circulation of capital."

In other words, at the moment that circulating capital becomes fixed in space, they become long-lived checks on the flow of that capital back into the economy, and the engine of capital accumulation is driven by constant reduction of turnover time required to transform value into surplus value, or "the annihilation of space by time."

The built environment comprises a secondary circuit of capital, which tends to attract surplus capital from the primary circuit. This arises due to the lack of immediate profitability in the primary circuit[3], and cycles in the built environment seem to be related to cyclical crises in the primary circuit.

Absolute rent, in Ricardian form, is simply rent that is accrued due to the scarcity of a particular resource; differential rent is rent based on the differential productivity of land. To this, Harvey adds DRII, or "monopoly" rent, which is a *spatial rent created through power*, whether this be state power, class power, etc. Harvey uses the term "class monopoly rents" to specify a type of class power that raises the *absolute* rent that can be extracted from a resource; in essence,

[3]which brings to mind the question: what happens to the secondary circuit during periods of expansion in the primary? We might imagine that this would cause under-accumulation in something like the housing sector

landlords and developers use class power to create artificial scarcity in order to drive up the slice of surplus value (George's "unearned increment") that can be extracted from the productive sector.

Jane Jacobs

Chicago School of Sociology & Neoclassical Spatial Equilibrium

Overview of the Housing Question under Urban Capitalism

Based on this survey of the theoretical literature, we can see that the land prices, rents, and the spatial structure of housing markets are the outcome of several idiosyncratic and contradictory process that operate at multiple levels. Starting from the level of the household:

1. The **household level** is where the reproduction of labor-power occurs. The housing *unit* can be considered both a capital good, used in the production of housing services, and a wage good, itself being the object of consumption. In the Marxian sense, we can also consider the household as the site of the production of labor-power. Real estate in general is required as an input to the production of *any* commodity, since the production process necessarily exists in physical space as well as time. Like other capital goods, it is subject to depreciation. The housing unit sits on a plot of land, which contributes to consumption of housing services, but beyond that its market value (i.e., exchange value) is determined solely by external (i.e., locational) factors– housing tends to depreciate, while land values tend to appreciate. Consequently, homeownership grants the household increases in consumption ability by way of capital gains and access to credit due to the ownership of physical collateral.
2. The landlord-tenant relationship can be characterized as one of contested exchange. The landlord charges some fraction of the tenant's wage for the privilege of not being homeless. The particular amount that the landlord can extract depends on several factors; chief among these is the amount of other rental housing (the quantity of which forms the basis of Harvey's class monopoly rent) within a commutable radius of the tenant's workplace, and the strength or weakness of legal tenant protections, among others. The existence of owner-occupied housing serves as an important outside option, and on this view we should expect rent-income ratios in a particular city to move in opposite directions as the rate of homeownership.

Homeownership rate in the United States, from St. Louis Federal Reserve

3. At the **urban scale**, the landlord-tenant-homeowner relationship is embedded in the networks comprising urban capitalism. Specifically, rental

payments to the landlord are out of wages paid by the corporate capitalist sector. We can conceive here of a tripartite distributional conflict in which the worker, capitalist, and landlord struggle for a share of output, with each class' share depends on the relative power for each. If high rents lead to higher wage demands, then capitalist firms may intervene directly in the housing market, as in company towns in the mining and lumber industries, or the planned housing investments in Seattle by Amazon or in the Bay Area by Google (Sisson 2019).

Local governments, the most directly involved in land and housing markets in the United States, also act at the urban scale. The state implements zoning restrictions, issues building permits, enacts rent controls, and other direct interventions into the built environment. We can consider local regulations governing residential and commercial real estate as a political equilibrium that is contested not only by the incumbent voting population, but various other agents and multiple scales (for example, financial institutions via the municipal bond market, detailed below). In the U.S. context, municipal financing is done primarily through property taxes, which gives urban governments strong incentives to promote growth in property values when faced with fiscal pressure (Stein 2019).

4. In the U.S. urban context, the **state scale** has something of a second-order importance; state governments, for example, serve as battlegrounds between large urban conglomerations and the suburban-rural populations that reside within the state. This is also the scale at which large capitalist firms, including real estate firms, indirectly affect the built environment for a particular city– the most salient methods for the purpose of this dissertation is through tax incentive schemes for firm relocation and through the pre-emption of local real estate regulations[4].

[to be completed later]

Land Rents and Urban Growth

[Main body of the essay. Will talk about speculator-developers, owner-occupancy as outside option]

[4]for example, the wave of anti-rent control legislation that swept through many state legislatures during the 1990s. In many cases, rent control was exceedingly popular at the local level, where the majority of the electorate were renters. By adjudicating the conflict at the state level, with higher barriers to political action, landlords and developers are able to bypass stakeholders who would otherwise be opposed.

Conclusion and Further areas for study

The Real Estate State: Housing in the Bay Area

Research Question: How much of an increase in e.g. regional growth goes to landlords?

Introduction

This is a historical/empirical essay that builds on the theoretical arguments developed in the previous chapter. The historical portion of this chapter focuses on the political and legislative development of the real estate industry during the growth of the technology industry starting in the 1990s. This period can be split into an early period, featuring relatively high elasticities of housing supply, and a late period, featuring relatively low elasticity of supply. The empirical methodology builds on Agarwal, Ambrose, and Diop (2019), who found that increases in the Philadelphia minimum wage had been largely absorbed into higher rents. I show that, following the argument in the previous chapter, changes in the (regulatory environment/size of property developers/etc) in the late period caused the same to be true for *general* increases in income (in other words; high productivity in spatially-concentrated industry turned higher wages into transfer payments from employers to landlords).

Literature Review

[10 sources here]

A History of Bay Area Real Estate

[Neighborhood development before and after GFC, including major court cases, major developments, tenant/owner fights, something similar to]

Data and Methodology

Bay Area cities should have relatively well-established data on land prices and rents. I need to think of a specification to show what happens to rents when the average (median) income of a neighborhood increases, to control for increased demand and migration. If I had the *perfect* data set, it would include:

- Median incomes for renters in a particular location,
- Rents for those particular locations

- Housing units, owner-occupied vs. rented over the time period
- Number of building permits issued in the location

I should be able to similarly use a DID approach. Where Agarwal, Ambrose, and Diop (2019) used lease-agreements as a proxy for minimum wage-earners' budget constraints, I would have to find a different dependent variable. The equation to be estimated would be something like:

$$\Delta rent_i = \mathrm{B}_1 \Delta medianwage_i + \gamma controls$$

Where I could compare those neighborhoods/metro areas that had the features identified in chapter 1 to those that did not.

Results and Conclusion

Rent Control– Is it Good, Actually?

Introduction

One need only to mention the phrase "rent control" to an economist to hear the reflexive Lindbeck quote about aerial bombardment, accompanied by a radioactive level of smugness. Rent control is considered as solved a problem as any, with the consensus of the entire discipline holding that rent control is as wasteful as any price control, resulting the lower housing quality, housing shortages, and paradoxically higher rents (e.g. Diamond, McQuade, and Qian (2018)). Yet, despite this, in the face of spiralling housing costs in many of the metro areas of the USA, many municipalities are calling for (and enacting) rent control legislation.

In a distributive-conflict framework, residential rent is a payment that a landlord extracts from a tenant through the threat of displacement via eviction. Rent control provides a check on this ability, and *does* reduce the net-present-value of the rental property. Landlords can respond by taking rental housing off the market (by, for example, becoming owner-occupants or converting properties to a non-controlled type), eviction-through-harassment, or simply by buying out the tenant. Such cases may be easily rectified through appropriate legislation or strengthening tenant protections.

[Move to next section]

> In this paper, I use data from Chetty et al. (2014) to evaluate whether rent control is a viable strategy to preserve neighborhood access to public amenities that increase economic mobility. In other words, rent controls may be welfare-increasing *even if they result in*

higher rents and lower housing supply overall if they preserve the access to place-based institutions that allow for mobility.

Literature Review

Empirical Studies on Rent Control

Diamond, McQuade, and Qian (2018) provides the most recent well-identified empirical analysis of rent control, and is the closest in methodology and substance to this essay. They use private datasets from DataQuick and Infutor. The combined datasets allowed them to link the identities of any resident of San Francisco to a particular address during the period 1990-2016, distinguish between owners and renters. They combine this with zipcode-level estimates of rents, imputed based on *housing price* transaction data– essentially, they estimate the relationship between median rents in a zipcode and the sale price of housing in that zip code. They use this combined dataset to estimate tenant, landlord, and parcel-level effects of a ballot initiative that suddenly brought a significant number of multi-family dwellings under the rent control law. They also estimate welfare effects in a general equilibrium framework using a structural spatial equilibrium model of the type detailed in section 2.1.

The detail of the dataset is quite remarkable, as it allows the authors to test displacement effects on individuals. However, it may be subject to a few sources of bias, namely: scraped data from housing-transactions and rental websites may overestimate housing costs [will cite when I find the source]; the link between housing prices and rents is not linear and so it is not clear how unbiased their estimates of imputed rents are; and, the methodology used in 1) matching names to property records and 2) matching names to races may be subject to all sorts of bias. Additionally, the structural spatial equilibrium model is subject to the same critiques of spatial equilibrium models in general outlined in chapter 2.

My most major critique, and where I feel that this essay contributes the most to the literature, is that the Costa-Hawkins Rental Housing Act was passed by ballot initiative in 1995, one year after the change in San Francisco housing regulations that brought more housing under rent control. This act established two things that radically undermined California rent control and almost assuredly affected their result: 1) the Act allowed for vacancy decontrol, which provides strong incentives for landlords to evict tenants when the gap between market and controlled rents becomes very large, and 2) the Act exempted condominiums and new construction from rent control. It is not clear that how much of two of the authors' main findings– that rent control led to higher rates of eviction of lower-income tenants, and that landlords converted some of their stock of rental housing to condominiums in response to rent control– were influenced by the law. The aim of this essay is to test rent controls at their *strongest*, i.e. in the absence of vacancy decontrol and condominium loopholes.

Sims (2007) and Autor, Palmer, and Pathak (2014) both study the effects of the end of rent control in Massachusetts, as part of the wave of state-level anti-rent control legislature that swept much of the country during the 90s. In particular, they look at the effect of the passage of Question 9 by Massachusetts ballot referendum in 1994, which banned any rent control in Massachusetts cities. At the time of the law's enactment, only the cities of Boston, Cambridge, and Brookline still had rent control laws on the books[5].After the passage of Question 9, almost all housing units in the three cities became decontrolled on January 1, 1995.

Sims uses public data from the American Housing Survey (AHS) to estimate the impact of the removal of rent control on several housing characteristics, including the quantity of rental housing, the level of rent and housing costs, unit quality, and the length of renter tenure. He uses a DD identification strategy to compare Census zones in the Boston Metropolitan Statistical Area that experienced decontrol to those zones that never experienced rent control, using a model with zone and year fixed effects, controlling for housing unit characteristics.

To test spillover effects of rent decontrol, Sims uses an instrumental variable strategy using a dummy that takes a value of 1 if the unit was *in a zone* that was ever under rent control and zero otherwise. To test indirect spillover effects, the author constructs several instruments including the interaction of a 2-family house indicator (which was excluded from rent control), pre-treatment year indicator, and controlled-zone indicator. In other words, finding the effect of decontrol on 2-family homes in controlled zones should provide for the identification of spillover effects, since these units were never under control. The author similarly constructs IVs for other forms of never-controlled housing.

Sims finds that the end of rent control had little effect on the construction of new housing. He further found evidence that rent control decreases the available number of rental units and increases the number of condominiums (i.e., the amount of rent-control exempt housing). In other words, rent control seemed to affect the quantity of housing available for rental, but not the total quantity of housing. He also finds insignificant negative effects of rent control on indicators of physical housing unit condition, but, unsurprisingly, significant increases in rent charged after decontrol. Finally, he finds that rent controlled units had much longer tenure times.

[Add: Critical analysis of Sims. Causality of spillover effects? Measurement errors, geographic granularity, silly distributional analysis]

Autor, Palmer, and Pathak (2014) also examine the effects of the 1995 Mas-

[5]Note here again the focus on political scale. The anti-rent control advocates consistently failed in opposing the laws at the local level, where tenants formed a sizable political bloc. At the state level, the coalition becomes much weaker. Question 9 was passed by a margin of 51-49; the three rent-controlled towns all voted against, while most of the never-controlled towns voted for, showing the importance of geographic scale in enforcing policy.

sachusetts rent decontrol ballot initiative in the context of spillover effects. This paper was less interested in specifically quantifying the impacts of rent (de)control, but instead exploited the exogenous change in regulations to see how how residential externalities get capitalized into housing prices as price regulations were relaxed. Their identification strategy relies on the fact that both rent controlled and never-controlled apartments "stood side-by-side in Cambridge neighborhoods on the even of rent control removal thus offering a tight temporal and geographic framework for assessing the impact of the law on residential prices." In other words, since the features of rent-controlled apartments (non-owner-occupied houses, condominiums, or apartments built prior to 1969) were distributed essentially randomly throughout the Cambridge housing stock, the effects of purely the exogenous variation in control status can be identified neatly[6].

The authors identified two major channels through which rent decontrol may have affected the market values of residential properties. The authors term the first the "direct effect," reflecting the ability of landlords to now charge market-rate rents; this both increases the maximum rent the landlord may charge and the net present value of the property. In the framework established in the first chapter, this is closer to the idea of monopoly rents, or DRII. The second channel they identify is the indirect effect, where decontrol raises the value of surrounding, never-controlled properties. The mechanism that the authors propose is that decontrol incentivizes landlords to "renovate and modernize decontrolled units, raising their rental values." This attracts higher-income tenants, which attract higher-income tenants to never-controlled properties, attracted by "improved housing stock and more affluent neighbors." Read critically, this seems a bit difficult to parse; it is difficult to imagine that higher-income tenants will be drawn to never-controlled properties due to better amenities in the formerly-controlled house *next-door*– the more plausible idea is that higher-income tenants will be drawn to never-controlled units by "better" neighbors in formerly-controlled ones. The authors associate these neighborhood effects with higher-income tenants, but especially given Boston's troubled history with desegregation, we should also note that "better" neighborhoods have historically been associated with racially-segregated (i.e., mostly-white) neighborhoods (Rothstein 2018).

[More on Autor et. al's methodology]

[10 sources]

[6]Note here a possible source of exogeneity: age of the housing stock is likely not random, and in fact is likely to be 1) spatially correlated (Glaeser et al. 2014), and 2) NPV of the housing stock, itself affected by rent-controlled status, is dependent on age of the structure. I return to this point later.

Empirical Strategy

There are several phenomena of interest regarding the effects of rent control. The three that I am most interested in are:

A. **How does rent control impact the supply of housing?** - most of the empirical and theoretical work regarding rent controls aims to answer this question. How much does rent control impact the construction of housing supply[7]? What are its effects on land values and rental rates? Aside from the very recent literature focusing on causal identification, much of the literature leaves the question of causation aside, with the assumption that rent controls form *ex nihilo* and function as a brake on housing supply growth. However, it is quite plausible that the direction of causation is actually reversed; the implementation of rent control by a particular electorate might be a *response* to growth in rents and evictions, caused by one of the factors identified in the previous chapters.

B. Which way does causation run? Diamond, McQuade, and Qian (2018) found that implementing rent control in San Francisco seemed to cause rents to rise in the long run, but Autor, Palmer, and Pathak (2014) and Sims (2007) found that the *abolition* of rent control in Boston *also* led to (somewhat unsurprisingly) higher rents and land prices. Is it that rent control *causes* rents to rise, or is it that cities experiencing high rent growth tend to enact rent control legislation? This relationship need not be linear either– it could be that further rises in land value shift the needle in the other direction, causing the abolition of rent control as in Massachusetts in 1995[8].

C. **How does rent control impact neighborhood stability and access to public goods?** - Aside from questions of housing supply and efficiency, the empirical literature is in relative agreement on the role of rent control in allowing tenants to remain in their homes[9]. Aside from utility directly obtained from not being evicted (and correspondingly for the landlord, having a long-term, stable tenant), it might be the case that in the face of highly place-based amenities and mobility effects (e.g., Chetty et al. (2014)), rent control may also allow access to public amenities (e.g. public schools) that allow for higher intergenerational mobility[10]

[7] An important corollary to this question is how does the *type* of housing, as well as its condition, change?

[8] interestingly enough, this is the same year that California passed the Costa-Hawkins Rental Housing Act, which restricted municipal rent-control initiatives and introduced statewide vacancy decontrol. This was the beginning of the asset bubble that crashed in 2008, and coincided with an apparent nationwide shift in the balance of power away from tenants and towards landlords.

[9] except in cases with vacancy decontrol, which incentivizes landlords to evict

[10] for example– does living in a rent-controlled neighborhood preserve access to institutions that allow for mobility among those who would otherwise be trapped in low-mobility environments? This type of question would be, in principle, rather difficult to answer, as it requires determining where a particular resident would be displaced to if the area were not rent controlled. In a descriptive way, we can look at migrations and evictions that occurred as a result

These will hereafter be referred to as *Question A, Question B*, and *Question C*

In answering A and B, I take direct inspiration from the recent minimum wage debates. I wish to compare growth in e.g. rents in a particular treatment group

Data

- Ideal dataset on households:

HH#	Year	Fips	TenStatus	Tenlength	Value	Gross rent	HH Size	Struc. Age	Contolled?
hh1	1999	000Atl	OwnerOcc	20	200,000		5	80	No
hh2	1984	000Nyc	Rented	6	300,000	500	3	40	Yes

- Ideal dataset on places:

Fips	Ctl?	Year Enacted	Year abolished	criteria (age, etc)	year banned by state	Dectl?
000Atl	No	1985	1992	Multifamily, >30 yrold	1992	
000Nyc	Yes	1929		Multifamily		Yes

- Ideal dataset on counties:

fips	ctl?	year	#units	#ownerocc	#rented	medianrent	hhsize	struc. age	year enact
00jers	yes	1998	35653	28000	8000	600	4	80	1995
00new	no	2003	850029	87533	63545	900	6	60	

To address question A, I would ideally need data on individual households (following Diamond, McQuade, and Qian (2018)). I can additionally combine this with data on city-level rent control laws to create the last column in table 1 above. This provides a ready quasi-experiment that allows me to perform a panel data regression with city, year, and household-level fixed effects. I also include a variable for vacancy decontrol, to separate out those cities which include a decontrol provision.

However, data on rents and occupancy at a granular level are very difficult to come by. The few studies that have done so have relied on private data provided by data-mining companies (e.g Diamond et. al) or on restricted-use versions of Census data (Desmond and Wilmers 2019) that provide household-level samples. In the absence of of such data, I will opt to use a Difference-in-difference (DD) approach, using Census data (the American Community Survey

of blanket rent control bans by state governments.

and the American Housing Survey). The goal with with this strategy is to find a set of geographies that are plausibly similar in characteristics such as housing demand, income and income growth, etc. where a subset of these are subject to the treatment effect (in this case, rent control). This approach presents some difficulties, however; rent controls are enacted at the local level, while the smallest local-federal consistent geographic level is the *county.* In other words, analysis at the tract level would result in many tracts being split at the city border, while analysis at the *county* level prohibits identification by including both controlled and non-controlled areas.

One possible approach would be to compare neighboring counties containing rent-controlled cities with those containing non-controlled cities. New Jersey might provide the ideal set of case studies for this, since it contains 98 rent-controlled municipalities, some of which have the strongest provisions in the USA.

[...]

US Rental Housing Finance Survey

The RHFS is the only recent, nationally representative survey of property owners. The survey was conducted in 2012 and 2015. It uses a stratified random-selection procedure to conduct its sample. The first two strata created were: 1) all large cities (with more than 100,000 housing units) and 2) a random selection of smaller cities and rural areas. Second, four other strata were created: properties with 1) 2-4 units, 2) 5-24 units, 3) 25-49 units, and 3) over 50 units. Multiunit rental property addresses were identified from the Census Master Address File and randomly selected from each of the eight strata. This procedure produced a representative survey of multifamily rental properties across the United States. The restricted version of the dataset is geocoded to provide locations for each building used in the sample. The RHFS excluded prefabricated homes, mobile homes, public housing, and single-unit rental properties. This last element, which includes condominiums, may pose a bias risk as mentioned above.

The RHFS survey asked a battery of questions about housing finance, property values, expenses, and revenue, including: mortgages, landlord expenses (including property taxes, insurance payments, utilities, property management fees, maintenance, security, and repairs), potential rent revenues, and actual rent revenues. The survey bases property values on property owners' responses, which could introduce bias if landlords systematically over- or under-value their properties. This bias can be avoided by using publicly available data on property values.

American Housing Survey

American Community Survey

Methodology

Question A

To answer question A, I want to estimate equations of the general form

$$y_{iy} = \alpha_{jy} + \delta_i + \beta_t T_i + \epsilon_{iy}$$

for the household-level fixed-effects model or,

$$y_{jy} = \alpha_{jy} + \beta_t T_j + \epsilon_{iy},$$

for the city/county-level DD specification where, for household i, city/county j, and year y, y_{iy} is a vector of the outcome variables [total housing stock, total rental units, median rent, length of rental tenure], α is county/city fixed effects, and δ is housing unit fixed effects.

Results

Conclusion

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