The paper analyses a particular type of housing arrangement between owner of a housing unit and owner of the land on which it is sited, where the unit is partially or totally immobile. While the focus is on mobile-home parks, the analysis is also applicable to certain condominium and cooperative housing. After exploring reasons for divided asset ownership, the possibility that divided ownership of immobile housing assets can lead to opportunistic behavior in the form of rent increases and even “gouging” is discussed. Rent control and its effects are examined with emphasis on the resulting wealth transfer from landlord to tenant and the reduction in the number of new parks. Results from an empirical analysis of both issues are presented. While there is strong evidence of a wealth transfer to tenants after rent control enactment, it is not clear whether these gains are offset by losses occurred by tenants prior to enactment. © 1999 by Elsevier Science Inc.

I. Introduction

Divided ownership of productive resources is common in a market system, the market serving to allocate use of resources efficiently. Because markets are not costless methods to allocate resources, the transactions cost incurred in using the market make firms a preferable alternative for at least some part of the production process. The determination of the optimal amount of integration of resources through market or firm transactions has been developed largely in the context of transaction costs and incentives for efficient behavior. On the other hand, tenure choice in housing has been largely...
treated in the housing literature as a consumption decision. Yet the production and consumption of housing services can readily be viewed as a production decision, where the tenure choice is also a decision about the method of provision—either market based (renting) or self-produced (owning). This distinction serves to highlight the importance of transaction costs and other issues in the organization of the firm to the question of tenure choice and the method of providing housing services. This view is particularly important in a subset of the market where the housing unit, i.e., the improvement sited on a parcel of land, is owned by one party (usually the occupant), but the land, to which are attached a variety of amenities and improvements, for example, utilities and common areas, is owned by another party.

This paper will analyze a particular type of housing arrangement with special legal and financial characteristics, i.e., between the owner of a housing unit and the owner of the land on which it is sited when the housing unit is partially or totally immobile. Most of our discussion will focus on mobile-home parks, but the analysis is also relevant for some condominium and cooperative housing. After exploring reasons for divided asset ownership, some potential problems will be discussed, particularly the possibility that divided ownership of immobile housing assets will lead to opportunistic behavior, such as significant rent increases and even “rent gouging,” defined as a rental rate above the market rate. Are rent controls imposed in response to or anticipation of such behavior? Or are they simply a mechanism for mobile-home owners to capture some of the return to investment accruing to landowners in a period of escalating land rents? What is the nature of implicit contracts to limit opportunistic behavior, and when are such contracts likely to break down? What are the ensuing effects of rent control? Finally, the economic effect of such control will be examined, along with some empirical analysis related to the issue.

II. The Economics of Divided Housing Asset Ownership

Housing services are produced using two inputs: land and housing units. The two can be readily separated, and either one can be owned or rented. Thus, three major ownership patterns are possible for this type of housing: (1) land and housing unit are owned by a landlord who leases both to a tenant; (2) land is owned by a landlord who leases it to a tenant who owns the housing unit on it; and (3) land is owned collectively by tenants, each of whom owns his own housing unit located on the land.

We find divided housing asset ownership in mobile-home parks and condominium (and cooperative) apartments. Such divided ownership arrangements are quite common, particularly in California and Hawaii. Both housing types have in common an important asset characteristic—immobility, though of different degrees.

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2In relation to mobile homes, placing them on a single lot owned by a home owner is a virtual impossibility. Many communities do not allow single mobile homes to be placed in their midst, and have zoned out such land uses. Under these circumstances, collective governance and decision making play a major role and can produce significant transaction cost, if each resident were to own not only his home, but a share of the collectively owned land (with its park).

3Over 95% of all mobile homes in California in the 1980s were owned by park tenants (California Dept. of Housing and Community Development, 1986). In Hawaii, the Bishop Estate, owning much of Hawaii’s residential land, leased considerable land to tenants who built condominiums and other dwellings on it.
When the two inputs are owned separately, the value to the housing consumer is still a joint product of the two inputs. There can be separate annual rents or separate market values for the housing and the land, but they are related by the fact that the ultimate consumption item is housing services. We will treat the rent or price for housing services as being the sum of the rents or prices for the individual inputs.

The term “land” will be used to refer to the land on which the housing unit is placed, associated with the amenities provided to the tenant. A mobile home will always have a particular section of land associated with it, while a condominium unit may not, but in both cases there will be various common land areas that are not associated with a particular unit, which we also include in the term. There are various scale economies in the provision of a set of amenities that allow for a lower cost per unit with multiple units. Housing units are subject to wear and tear that is controllable by the user and requires maintenance investments by the owner.

Utility to consumers comes from housing services, \( Q \), which are assumed to be a function of the housing unit itself as well as the land and associated amenities provided. Each housing unit provides some consumption benefits associated with the size, condition, and other attributes of the housing unit itself, and each site provides some level of amenities that are available to the consumer. We use the term “home” to refer to a sited housing unit, its related land and amenities. Homes are created by combining land and structure while incurring certain setup costs. Once a home is established, it produces services based on the housing unit, the land, and its amenities.

The landowner determines the number of sites to provide and the amount of associated amenities to provide. Amenities are allowed to vary in each time period. Each mobile-home park can then be treated as creating housing services based on both fixed and variable inputs. A general production function is then

\[
Q = f(Y, A)
\]

where \( Y \) is the measure of housing unit service and \( A \) is a level of quality (or amenities) that is associated with the land input. In a perfectly functioning, zero-transaction cost economy, the two inputs are either produced or purchased and combined to create the output. There will be a rental function \( R_{qt}(Y, A) \), which is the market clearing rental rate for sited housing units based on housing services and amenities in time period \( t \).

In the zero-transaction cost case, the land owner would determine the optimal level of amenities to provide to maximize profits, and this would be an efficient level of amenities for the park recipients, who could costlessly move if there were a better combination of rent and amenities available elsewhere.

The rental payment for land would be very similar to an equivalent mortgage payment if rents are expected to remain stable over time and the appropriate discount rate is equal to the mortgage rate. In this case, the difference is largely the small amount of principle repayment that is embedded in the mortgage amount. However, this result relies on some fairly strong assumptions about the relevant interest rates and the expected stability of rents.

The relationship between rent and land value is more complicated if there is an expectation of rising rents over time. If land were expected to increase in value in the future, then the current rent would be below the mortgage cost. The present value of expected future rent payments would equal
where \( R_0 \) is the initial rent rate, \( r \) is the rate of increase in rent payments, and \( m \) is the appropriate discount rate. If \( r = 0 \), then there is not much difference between the rent and the mortgage payment (based on an interest rate of \( m \)). However, if \( r > 0 \), then the rent would be below the mortgage rate; and the faster the rate of expected rent increases, the greater the difference between the current payment associated with owning the land (through a mortgage payment) and the current rent on the land.

A numerical example could clarify. If \( R = 100 \) and \( m = 0.10 \), then the present value for an indefinite stream of rent payments would be $1000, which would be the market value of the property. The annual mortgage payment for a 30-year term and 100% financing would be slightly above $106 per year at this interest rate. However, if \( r = 0.05 \), implying that the rent payment would be expected to increase by 5% each year, then the present value is about $2100. Hence, a landlord would be willing to pay the $2100 for the land and only receive rent equal to 5% of the value because there would also be a 5% increase in land value each year. The landlord thus receives $105 in rent at the end of the first year and $105 in capital appreciation to give a 10% return on investment. A mortgage payment on the $2100 at 10% interest would be about $222. The renter gets lower initial payments, but faces rising rent over time as well as giving up any share in the increased value of the land.

Housing services depend on the current condition of the housing unit. Current condition is a function of initial characteristics, wear, maintenance, and improvements if any. Wear is determined by the user and maintenance by the owner. Thus,

\[ Y_t = g(W, M, Y_{t-1}) \]

where \( W \) is a user-determined wear level, and \( M \) is the owner-determined level of maintenance and improvements. It is costly to limit wear and to provide maintenance and improvements. It is easy to see that if the user is not the owner, inefficient levels of both wear and maintenance are possible in the presence of transaction costs.\(^4\) Because this is a relatively minor issue once the ownership structure is determined; we will not treat it further, but analysis of these characteristics are important in determining why units are not all owned by the park owner and rented to users. In particular, differences in the importance of wear and maintenance possibilities appear to determine likely patterns of ownership and rental based on structure type.\(^5\)

Again, for simplicity, we focus on the case of divided ownership and assume that owner-occupiers make efficient decisions regarding wear and maintenance of their housing units. Each unit will then rent for \( R_c(Y) \), and housing units can be costlessly moved to appropriate locations once the initial setup has taken place.

In this zero-transaction cost case, the rental price of housing services will be a function of the cost of a new housing unit adjusted for depreciation and the cost of

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\(^4\)J.V. Henderson and Y.M. Ioannides, op. cit.

\(^5\)Where maintenance is subject to large joint economies, as in a high-rise apartment building, rental is likely the most efficient housing arrangement. Nevertheless, there are many examples of such high-rise buildings organized as condominiums with individuals owning their housing units, although in this circumstance the land is more likely to be owned by all housing unit owners cooperatively than by a separate landlord. Much of the discussion to follow can be applied to condominium and cooperative housing, but we focus on the applications to mobile homes.
siting a unit. In equilibrium, we would expect that this rental value would be independent of land rent, because the number of units could be adjusted over time, and the supply of mobile home units should be very elastic.

Rental and Sales Values

Sited housing units are ultimately valued for the housing services that are provided to consumers, and housing market conditions will determine the market-clearing rent for such housing services. The rent for such housing services must then be allocated between the rent for the housing unit and the rent for the land. Market value of the unit and of the land will then depend on the expected future stream of net rents. In a perfect market with perfect foresight and so on, this would be the net present value of future rental values. Of course, unexpected changes in market conditions would change the present value of the sited housing unit. This change in present value could be divided into changes in housing unit value and in land value. When there is a single owner of both land and housing unit, there is no need for such a division. However, when there is divided ownership, the changes in home value and housing unit value will be related to each other by the changes in land rent.

The housing unit itself can change in value each year based on the maintenance expenditures, and landowners face the cost of providing amenities. For simplicity, from here on, we will ignore such issues and treat the rent collected in each time period as the net rent. The value of a mobile home will then depend on the value of the housing services minus the present value of expected rent payments. In general, separation of the markets for land and housing units would be expected to result in the mobile home value being closely related to the depreciated value of the housing unit. Substantial variations would be indicative of distortions in the housing market.

III. Reasons for Divided Asset Ownership

Why do mobile-home owners rent land rather than own it (and its improvements) collectively? There are several plausible sets of reasons. A frequently stated argument is that leasing the land allows for ownership by people who do not have the capital resources to purchase both house and land. Mobile-home housing is generally a lower cost alternative, although with the quality improving dramatically over time, overall prices have risen also. Lower costs for renting rather than owning land could appeal to prospective mobile-home purchasers who do not have the capital or meet the income requirements for owning a similar single-family home. As we saw above, when land rents are expected to rise over time, the current rent is likely to be well below the cost of a mortgage payment on the market value of the land.

Examining the effect of capital and income constraints on tenure choice, Zorn finds that many people choose renting precisely because they cannot achieve their desired level of owner-occupied housing based on “permanent income.” Although his study does not directly address mobile homes as an alternative, much of the advertising by mobile-home park owners stress the reduced financial requirement associated with not owning the land. Hence, the appeal of a mobile home might be that it allows some of the benefits of home

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6Obviously, the person living in a unit at any time might value the unit at more or less than this rent, but the rent represents the market value of the set of characteristics exhibited by the unit and its land.

ownership for those without sufficient income and capital to purchase both the land and structure. The relevance of this explanation depends on whether the current land rent is actually lower than a mortgage payment would be or not.

A second reason might be inertia in the face of changing conditions. Although mobile homes are seldom truly mobile any more, their name comes from an origin that often included true mobility. In such cases, rental of the land allowed for easy movement whenever it became desirable to change locations. As the nature of the product changed over time, it may have taken time for subdivision laws and other practices to come to terms with the changing nature of the home.

Finally, it may be easier and more cost effective to provide certain amenities and control for externalities with a single owner of the land than would be possible with multiple owners. Often mobile-home parks provide an extensive range of amenities. In addition, there are many common features, such as utilities, that may benefit from significant scale economies in provision.

In relation to immobile-housing assets, renting sites differs from ownership, particularly in terms of transaction costs, scale economies, and tax treatment. For example, for owners of mobile homes to own the land on which their units are sited will require collective land ownership. Such group ownership requires a number of collective decisions. They include, for example, in a new mobile home park, decisions about location, price, financing, layout and landscaping, roads and amenities, and type of residents and quality of housing units to be attracted. For existing developments, major costs relate to decisions about changes in conditions, repair, and extensions, many of which tend to result in time-consuming and often acrimonious disagreements among residents. These transaction costs are incurred not only in money terms, but also in time and personal relations. Decision making by a single landlord can be more efficient. According to Hansmann:

> The landlord of a rental building [or park], making decisions that affect the occupants ... as a group, generally has an incentive to select policies that are efficient since that will maximize the aggregate rents she can charge.  

Significant scale economies are also important in relation to amenities, which are improvements provided by the landowner. For example, a mobile-home park owner may provide roads, electricity, gas, water, landscaping (including ponds or lagoons), swimming pool, tennis courts, etc. The owner of the land is responsible for these amenities, while the owner of the housing unit is responsible for the condition of the unit itself. Density of housing units creates economies of scale in the provision and consumption of amenities.

There are tax advantages to ownership. Mobile homes are treated under the tax law like any other owner-occupied residence. Consequently, interest paid on loans and property taxes are deductible when calculating federal and state income taxes. Although many owners of mobile homes may not itemize and thus not receive these tax

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8Other factors include costs associated with implicit rather than explicit contracts and with coping with uncertainty, related to liquidity, diversification, and land value.


10Separate housing unit owners can benefit from some of these scale economies associated with the land if they set up a legal entity responsible for amenities, however, at the price of significant transaction costs, as discussed earlier. For example, a California resident with a taxable income of $50,000 could save 28% of federal and about one-half of 8% of state income taxes, i.e., about 32%.
benefits, taxpayers, when selling their mobile home at a profit, if single, will generally
not pay capital gains taxes on the first $250,000 of gain and, if married, not on the first
$500,000. Rental property does not receive those benefits, and rental of land also
foregoes the tax benefits of ownership. The exact impact of these issues will differ
among mobile homes. Many mobile homes deteriorate over time rather than appreciate
in value, but newer ones are often comparable to other single-family homes.

IV. Problems With Divided Asset Ownership

In 1937, Coase first explored the question why there are firms, that is, economic entities
distinguished by integrated asset ownership and organization of productive activities.12
He pointed to transaction cost as the premiere reason for the existence of firms, and
argued that firms can significantly reduce these costs by substituting internal manage-
ment structures for market transactions. In short, firms emerge where markets perform
poorly.

Williamson offered further reasons favoring firms.13 For example, he suggested that
firms could better govern their internal activities by relying on implicit contracts where
conventional explicit contracts are surrounded by substantial difficulties. Implicit con-
tracts, unlike explicit ones, are not court enforceable, but are guided by concerns about
reputation and reciprocity. These unwritten rules and codes of conduct, together with
subjective assessment of personnel as well as of production and marketing opportuni-
ties, and ability to readily adapt to such internal concerns as compensation, transfer
pricing, and corporate governance, can significantly contribute to the efficient manag-
ing of firms. Furthermore, relatively low transactions costs are incurred in negotiating,
drafting, and enforcing understandings compared to explicit contracts. This feature is
of particular importance when outputs are intangible and accountability is limited.

Baker, Gibbons, and Murphy further advanced the theory of the firm by elaborating on
the role played by implicit contracts in determining whether transactions will occur within
firms or various types of markets.14 They differentiate between transactions within firms,
“relational contracts” (implicit contracts in markets), and spot markets. Mobile-home
parks fall into the category of relational contracts, where “reputation” may be the biggest
constraint on landowner behavior; and complete ownership by either the occupant or a
landlord would correspond to the production of housing services by a firm.

Klein, Crawford, and Alchian note the possibility of opportunistic behavior in the
presence of appropriable specialized quasi-rents.15 The assumption underlying their
approach is that quasi-rents are created as assets become more specific and more
appropriable. The relationship between landowners in mobile home parks and the
owners of the mobile homes has become more consistent with opportunistic behavior
over time as the mobility of the mobile homes has declined.16 In particular, park owners
may have an opportunity to engage in such behavior due to the high cost of moving a
sited mobile home. Increasingly, mobile homes, despite their name, are rather immo-

at the Bergman Business Organization and Regulation Workshop at UCLA, Oct. 18.
16For a review of the nature of mobile home parks and mobile homes, see Hirsch, W.Z. (1980). “An Inquiry Into
bile, because, once moved to a park, wheels are taken off, the unit is placed on a foundation, skirted, and frequently complemented by car porches and landscaped gardens. Thus, moving a mobile home after it has been sited can be quite costly.

Despite the possibility of such behavior, new mobile home parks are created, and many seem to operate with little conflict between the owners of the homes and the owners of the land. On the other hand, the conflict has become heated enough in many communities that rent control ordinances have been enacted to restrict the level of rents and the rate of rent increase. This may imply that there are specific circumstances where opportunistic behavior occurs; or it may imply that some landlords are slower than others to recognize such opportunities; or the conflicts may arise because land rents are increasing and the renters would like to avoid paying them.

In summary, owners of housing units, in deciding on whether to own or rent the land on which it is sited must trade off scale economies, for example, related to amenities, with a variety of transaction costs and tax advantages. If rental is chosen, immobility locks in tenants and leaves them open to a holdup by their landlord. In the presence of a holdup and highly unequal bargaining power, the market may not work.

V. Direct Effects of Divided Ownership of Immobile Housing Assets

If we remove the assumption of zero-transaction costs, we can readily see the possibility of strategic behavior on the part of the participants. As noted earlier, if a unit were moved, the landlord would be faced with a period of zero rent and likely repair costs to make the land suitable for a new tenant. However, the owner of a housing unit would be faced with the cost of moving and siting the unit. This cost would likely exceed the cost of siting a new unit because it would require the disconnection of the unit as well as some method to make the unit mobile again, which would often require the splitting of the unit into its original multiple pieces, and so on. Clearly, in the absence of any contracts, the landlord is in a superior bargaining position due to the much greater cost that the housing owner would have to incur to dissolve the relationship.

A first concern would be whether implicit contracts might work to mitigate the power of the landlord. If the landlord still has vacant sites, either at the existing park or in other parks, then the landlord may have to take affirmative steps to maintain a reputation of fairness so as to attract new tenants. However, if a park is full, and the landlord has no intention of opening other parks, there appears to be little reason not to take advantage of his superior bargaining power. If a particular landlord is not interested in doing so, then there is an opportunity for someone else to buy the park and raise the rents.

Of course, not all rent increases are an indication of unfair practices on the part of the landlord. Rising demand coupled with an inelastic supply of land leads to rising land prices in many different uses. The perception of land rent increases being unfair may be greater in a mobile-home park because the typical increase in rent for an entire dwelling is composed of the increase for the housing unit plus the increase for the land associated with it. When housing resources can be readily duplicated, then the entire impact of an increase in rent for a dwelling unit is associated with the increase in rent for the land. Hence, land rents would tend to go up faster than rents on apartments or other rental housing if the cause were an inelastic supply of land coupled with an elastic

17Niebanck relates quotes from a hearing on mobile home rent controls in Florida, with testimony such as “We are captives,” “Our bargaining position is unequal,” and “We can’t trust the landlords.” Niebanck, P.L. (1985). Rent Control Debate, Chapel Hill: The University of North Carolina Press.
supply of housing units. So, even if land rent increases are occurring at the rate
associated with market increases for land values, owners of mobile homes may feel that
they are facing unreasonable increases in rent.

Another complicating factor is the possibility that housing unit owners do not expect
rent increases to reflect the increasing value of the land. Their perception may be that
the cost of the land has not changed, and that rent increases are, therefore, not
justified. It is certainly possible that there was an implicit contract to this effect, but
trying to determine the intent of unwritten agreements would be impossible, and there
are likely to be different interpretations by the landlord and the housing unit owner.
Hence, we assume that the intent was for land rent to cover the opportunity cost of the
land or what we have been referring to as the ideal rent.

Disagreement about rent increases can occur under a variety of circumstances. For
example, landowners have large fixed costs associated with building the complex and
filling all of the spaces. It may make sense for the landlord to charge rents below the
ideal market rate while the complex is being filled. Yet once the park is totally occupied,
and because it is costly to move a housing unit, a holdup can occur. Thus, the
landowner would have an incentive and capability to either raise rents above the ideal
market rate or underinvest in amenities, or both. "Rent gouging" could occur. Rents
above a market rate would reduce the value of sited mobile homes, with the reduction
potentially equal to the cost of relocating the housing unit. Hence, it appears that there
is potential for abuse.

Whether the abuse exists or not, tenants in mobile home parks have succeeded in
gaining the attention of politicians and legislative action. This may reflect a desire on the
part of other residents in the community to restrict further development of such parks.
If existing residents recognize that rent controls make new investments unappealing,
then they may support the self-interested movement for controls by existing residents
even if there is no perception of opportunistic behavior by the landowner.18

As an empirical matter, one could look at the resale value of the units relative to the
cost of purchasing and siting a new unit. If the land rent is set at a market level, then
the units should sell for approximately this cost. However, if the land rent is above
market rents, then the newly sited units should sell at a discount relative to the cost of
purchasing and siting a new unit. For older units, the empirical question is a little more
complex because depreciation and maintenance must be taken into account; but, in
principle, the unit should sell for the depreciated value adjusted for the siting costs.
Sales prices below this amount would be evidence of rent gouging. In the limit,
extensive rent gouging would eliminate divided ownership as a viable housing form.
The housing unit owner could effectively end up paying the same rent as if the
landowner owned both the land and the housing unit when moving the housing unit is
extremely costly or not at all possible.

Note that the equity impact of rent gouging can be separated into two effects at any
point in time. For whatever period the land rent has been inflated, there is a cumulative
transfer from the housing owner to the landowner equal to the compounded present
value of the transfers that have occurred. In addition to the transfer that has already
occurred, the current owner of the housing unit would face a reduced value of the unit
associated with the expected future land rent payments.

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18We are indebted to an anonymous referee for this point.
VI. Indirect Effects of Divided Ownership

The potential for rent increases above the market-clearing level certainly exists. However, it would be possible for homeowners to enter into long-term leases with landowners rather than allowing the rent to be determined each year. Such an arrangement has been common in Hawaii, where the Bishop Estate, which owned at one time about one-fourth of all land, entered into lease agreements with owners of housing for 25 years. There are benefits and costs to such long-term contracts. The most obvious deterrent would be difficulty in forecasting the cost of providing amenities and the demand for specific amenities; so long-term rentals would be expected to include few amenities. Also, the market-clearing rent for land would change over time, and a long-term contract precludes adjustments until the contract ends, at which time there may be large shifts in rental terms. Finally, any long-term contract would have to end at some point, and there would be inefficiencies as the contract neared the end of its term, and the longer the term of the contract, the closer the situation approaches ownership. Hence, an implicit contract may have advantages over a detailed long-term lease.

Rent increases, particularly in mobile-home parks, and the resulting pressure from owners of housing units, have persuaded many communities to adopt rent-control ordinances that limit the rent increases allowed in mobile-home parks. Although these ordinances have the potential to improve efficiency, they also can themselves distort the market for mobile-home housing. Much depends on the functioning of the market prior to the imposition of rent control. For example, if rents reflected market rates, the rent control itself would be a distortion; but if landlords had raised rents above the market rate, the control could improve the functioning of the market. Again, the empirical test would be to compare the market value of sited units with the depreciated value based on the cost of purchasing and siting new units. If units were selling at a discount prior to the rent control, this would be evidence of rent gouging. If the units sell at a premium after the control, this would be evidence of rent being held below market levels. The latter could occur even if rent gouging had been occurring but the new control overcompensates.

A further complication is the ability of the landlord to alter the amenities provided in exchange for the rent. Amenities can be sorted by degree of necessity: (1) essential public utilities—water, electricity, gas, telephone, and streets; (2) high degree of necessity—laundry facilities and some common areas; (3) medium degree of necessity—landscaping and related upkeep of common areas; and (4) low degree of necessity—swimming pools, tennis courts, and other recreation services. It is common for public utility companies to be responsible for capital investments and maintenance related to item (1), and other legal requirements relating to health and welfare would probably limit a landlord’s ability to reduce provision of these services. However, tenants would have to seek legal remedies to prevent reductions in the other items, and landlords may have a strong incentive to let quality deteriorate, if not outright stop providing the service, under rent control.

Rent control alters the revenue function in a very specific way. Strict, first-generation control drastically restricts rent increases over time. This amounts to a quasi-permanent cap on rent, even when occupants change. Such drastic controls typically make the revenue independent of the amount of amenities provided, further reducing the incentives that landlords might have to provide amenities. Second-generation controls typically restrict the rate of rent increase, but do not adopt strict long-term limits. If the control is of the second-generation type and simply prevents rent gouging, then there
may result a net improvement in the allocation of resources, still leaving landowners with some incentive to lower the supply of amenities. Distortions in the level of amenities complicate both the empirical and theoretical analysis of the impact of rent control. For simplicity, the rest of the paper will treat the level of amenities as fixed.

The impact of the rent control depends substantially on its specific provisions. First-generation rent control of a mobile home allows the owner of the housing unit to effectively capture the future value of the rent control when selling the housing unit. If rent control is permanent, and the housing unit owner can sell the unit without affecting the land rent, the benefits will all accrue to the person owning the housing unit at the time rent control is implemented.

If landlords were engaged in some form of “rent gouging,” with the initial rent above the market-clearing level, and the control reduces the rent to the market-clearing level initially, there may still be distortions with rigid controls. Rigid rent control makes it likely that future land rent would be below market-clearing levels, and these expected future savings would be capitalized into current prices. Hence, rigid rent control is expected to have the biggest impact on current values of housing units.

One way to protect the sitting housing unit owners from rent gouging, without granting permanent rights to the lower rental payments, is to allow for decontrol of rent at turnover. Sitting tenants are protected from unforeseen increases in land rents, and new tenants will pay a higher rental rate than sitting tenants but would also be protected against future unforeseen increases in rents. In this case, there is an incentive for sitting housing unit owners to stay in their homes longer than they would if rent-control benefits were transferable; and there are incentives for landlords to charge initial rents that are above market rates in anticipation of future restrictions.

VII. Testing The Divided Immobile Asset Ownership Model

As the divided asset ownership model suggests, in jurisdictions that have seen major land rent increases, legislative reaction has been common. For example, in relation to mobile home parks, California has seen widespread enactment of rent control. Although the first rent control was enacted in 1977, by 1993 more than 100 jurisdictions had such an ordinance. The effect has been swift and far-reaching. As more and more jurisdictions have imposed rent control, fewer and fewer new parks were built. Shipments of mobile homes into California declined steadily from 29,036 in 1977 to 4,865 in 1992 (Table 1). So did the percent of such shipments in the United States going to California, from 10.9% in 1977 to 2.3% in 1992.

A simple regression model reinforces the impression that rent controls have been highly correlated with the decline in mobile home shipments. A model in the following general form was run with some variables omitted in some runs

\[ \text{Shipments} = f(\text{controls, res-law, apt-rent, price}) \]

where controls represents the number of jurisdictions with mobile-home rent control, res-law is a dummy variable set to one when the Mobile Home Residency law is enforced, \(20\) apt-rent is the apartment rent in California deflated by the Rental Consumer Price Index.

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and price is the level of mobile home prices in Western states deflated by the Consumer Price Index. Four variants of the equation were estimated. The results are shown in Table 2. In all formulations, the effect of the number of jurisdictions with rent controls is of high magnitude and statistical significance. The estimates indicate that each jurisdiction adopting mobile-home rent controls reduces the number of mobile homes shipped to California by between 200 and 300 units per year. Higher apartment rents increase the number of mobile home shipments, as expected. Only the price variable is open to some question. It has a positive effect that is significant in one equation but not in another. Likely, this reflects the supply of units in response to prices, but it may be confounded by demand effects as well as the effect of rent controls on mobile-home prices; however, the small number of observations precluded simultaneous estimation.

The importance of the rent control variable in the equation can be illustrated through the construction of “Beta Coefficients,” which render the regression coefficients more readily comparable by subtracting their means and dividing them by their respective standard errors. The estimated coefficients of $-1.01, -0.368, -0.587, and 0.261$, respectively, indicate the relative importance of the rent control variable. Alone, it has almost the same size impact on shipments as do the other three variables combined (the absolute value of its coefficient, 1.01, is not much smaller than that of the others summed together, 1.216).

These results do not demonstrate causality, because high and rapidly rising land prices might have made mobile homes an unattractive housing alternative at the same time that the rising rents caused existing mobile-home owners to seek rent-control protection.

A previous empirical study applied the capitalization model to estimate the effect of rent control on the value of mobile-housing units. The study covered the State of

<table>
<thead>
<tr>
<th>Year</th>
<th>California</th>
<th>Nation</th>
<th>Proportion</th>
<th>No. of jurisdictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1977</td>
<td>29,036</td>
<td>277,289</td>
<td>10.86</td>
<td>1</td>
</tr>
<tr>
<td>1978</td>
<td>22,360</td>
<td>275,881</td>
<td>8.10</td>
<td>6</td>
</tr>
<tr>
<td>1979</td>
<td>17,707</td>
<td>277,372</td>
<td>6.38</td>
<td>17</td>
</tr>
<tr>
<td>1980</td>
<td>12,694</td>
<td>221,565</td>
<td>5.73</td>
<td>27</td>
</tr>
<tr>
<td>1981</td>
<td>11,384</td>
<td>240,906</td>
<td>4.73</td>
<td>30</td>
</tr>
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<td>1982</td>
<td>7,604</td>
<td>239,502</td>
<td>3.17</td>
<td>39</td>
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<td>1983</td>
<td>11,075</td>
<td>295,553</td>
<td>3.75</td>
<td>49</td>
</tr>
<tr>
<td>1984</td>
<td>10,451</td>
<td>295,677</td>
<td>3.53</td>
<td>60</td>
</tr>
<tr>
<td>1985</td>
<td>10,045</td>
<td>283,794</td>
<td>3.54</td>
<td>67</td>
</tr>
<tr>
<td>1986</td>
<td>10,520</td>
<td>244,341</td>
<td>4.31</td>
<td>70</td>
</tr>
<tr>
<td>1987</td>
<td>9,651</td>
<td>232,823</td>
<td>4.15</td>
<td>75</td>
</tr>
<tr>
<td>1988</td>
<td>10,517</td>
<td>218,264</td>
<td>4.82</td>
<td>79</td>
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<tr>
<td>1989</td>
<td>10,763</td>
<td>198,083</td>
<td>5.43</td>
<td>82</td>
</tr>
<tr>
<td>1990</td>
<td>9,706</td>
<td>188,251</td>
<td>5.16</td>
<td>89</td>
</tr>
<tr>
<td>1991</td>
<td>6,022</td>
<td>170,900</td>
<td>3.52</td>
<td>92</td>
</tr>
<tr>
<td>1992</td>
<td>4,865</td>
<td>210,453</td>
<td>2.31</td>
<td>97</td>
</tr>
</tbody>
</table>

California in 1984–1986, where about 39% of all mobile homes were in rent-controlled communities.\(^{22}\) Statistically, highly significant multiple correlation results indicate that sales prices were on average about $8,800 or 32% higher in communities that had imposed rent control on mobile-home park rents. This finding still suffers from possible simultaneity bias, because the areas with the greatest increases in housing prices and land rents may have faced the greatest political pressure to impose rent control.

The next study pertains to the Laguna Vista Mobile Home Park in Oceanside, California, which had 265 pads in 1986–1992.\(^{23}\) Of the 265 pads, 103 were under long-term lease when the Oceanside rent control ordinance went into effect in February 1985. The law specified that pads under long-term lease were not subject to rent control, while the other 162 pads were rent controlled. The leases were for 15 years, with a 5-year renewal at the discretion of the park owner. Such leases were a common option in mobile home parks at the time, but many residents chose not to enter into such arrangements. Between March 1986 and August 1992, there were 94 transfers, with some homes changing hands more than once. Two sales identified as bankruptcy sales were excluded from the analysis, and another two sales were excluded due to missing data.

A hedonic regression model used age, width, square footage, presence or absence of rent controls, and a dummy variable for sites with a lake view, and time of sale. A variety of functional forms were estimated, with little change in the results. The following equation is representative (\(t\)-ratios in parentheses):

\[
\begin{align*}
\text{Equation 1} & : \quad \text{Constant} = -40,067, \quad \text{Rent controls} = -196,190, \quad \text{Res-dummy} = -9,069, \\
\text{Equation 2} & : \quad \text{Rent controls} = -196,190, \quad \text{Res-dummy} = -9,069, \\
\text{Equation 3} & : \quad \text{Rent controls} = -277,074, \quad \text{Res-dummy} = -8,306, \\
\text{Equation 4} & : \quad \text{Rent controls} = -320,869, \quad \text{Res-dummy} = -7,2254.
\end{align*}
\]


\(^{23}\)Laguna Vista is a high quality park with six acres of greenbelts, eight lakes, tennis court, a library, a large recreation center, and an Olympic size swimming pool. The homes are of high quality, with carports and attractive landscaping.

### Table 2. Mobile-home shipments and rent control in California, 1977–1992

<table>
<thead>
<tr>
<th>Equation 1</th>
<th>Equation 2</th>
<th>Equation 3</th>
<th>Equation 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-40,067</td>
<td>-61,186</td>
<td>-29,517</td>
</tr>
<tr>
<td>(-4.5068)</td>
<td>(-3.5019)</td>
<td>(-2.2353)</td>
<td>(-2.9419)</td>
</tr>
<tr>
<td>Rent controls</td>
<td>-196,190</td>
<td>-277,074</td>
<td>-255,50</td>
</tr>
<tr>
<td>(-7.3781)</td>
<td>(-5.5826)</td>
<td>(-7.3144)</td>
<td>(-7.2254)</td>
</tr>
<tr>
<td>Res-dummy</td>
<td>-9,069</td>
<td>-8,306</td>
<td>-</td>
</tr>
<tr>
<td>(-6.5158)</td>
<td>(-3.9094)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Apt-rents</td>
<td>17,526</td>
<td>24,929</td>
<td>22,259</td>
</tr>
<tr>
<td>(5.1559)</td>
<td>(3.6866)</td>
<td>(4.4819)</td>
<td>(4.1518)</td>
</tr>
<tr>
<td>Price</td>
<td>755,907</td>
<td>614,933</td>
<td>-</td>
</tr>
<tr>
<td>(4.2138)</td>
<td>(1.6361)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>(R^2)</td>
<td>.9753</td>
<td>.9799</td>
<td>.9354</td>
</tr>
<tr>
<td>ADJ (R^2)</td>
<td>.9663</td>
<td>.8499</td>
<td>.9193</td>
</tr>
<tr>
<td>(F)</td>
<td>108,563</td>
<td>29,3177</td>
<td>57,9357</td>
</tr>
</tbody>
</table>

\(t\)-Ratios in parentheses.

where an $l$ at the beginning of a variable indicates that the natural logarithm of the variable was used in the estimation and where \( \text{month} \) is the number of months into the period (starting with January 1986), \( \text{age} \) is the age of the unit in years at the time of the sale, \( \text{width} \) is a dummy variable equal to 1 if the unit was a triple and zero for a double (all units were doubles or triples), \( \text{sqft} \) is the size of the unit in square feet, \( \text{lakeview} \) is a dummy variable with a value of 1 if the unit had a view of the lake and zero otherwise, and \( \text{rentcontrol} \) is a dummy variable with a value of 1 if the unit was under rent control and zero otherwise. The individual coefficients appear reasonable. Sale price was estimated to increase with time and decrease with age. A triple was estimated to have a $6,000 premium even after adjusting for square footage. The implied value of increased size was about $15 per square foot for units of around 1500 square feet.

The coefficient on the rent control dummy implies that, during 1986–1992, sales prices of mobile homes under rent control were $3,531, or 8%, higher than prices for the uncontrolled ones. This strongly suggests that the impact of rent control was to reduce the rent below market clearing levels, as found in the long-term leases. Again, there are caveats to this conclusion because the long-term leases might represent the impact of landlords exercising their ability to impose above-market land rents. In any case, this offers evidence that the increase in prices associated with rent controls is indeed due to the impact of the controls.

Thus, rent control can impose losses on park owners through reduced rent adjustments. If the owner tried to sell the park to escape the impact, the park values would be lower as rent control is capitalized into lower prices that potential buyers are willing to pay for the park. This value may be further reduced by the damaging effect of rent control on risks perceived by potential buyers of the park. For their heightened risk, they could be expected to use a higher interest rate to capitalize expected rents into land values, further reducing prices they are willing to pay for the park.

Thus, rent control ordinances impose burdens on landlords that can result in a wealth transfer to tenants. However, it must be remembered that such ordinances were typically enacted in response to large rent increases, even rent gouging. Thus, prior to the enactment of rent control, landlords may have been the beneficiaries of a wealth transfer from tenants.

For certain purposes, it might be useful to take into account both the net wealth transfers during the periods before and after enactment of rent control. For this purpose, information would be needed on (1) rent control associated housing unit value losses incurred by tenants in the period before enactment of rent control and gains accrued in the period following it, and (2) park value gains and losses by landlords in the two respective periods. This information would allow estimates of the net wealth transfer of tenants and of landlords, respectively, during the pre- and postcontrol periods.

To the best of our knowledge, no estimates of either tenant or landlord wealth transfers in the period preceding rent control have been made. Estimates of tenant wealth transfers would require analysis of the value of mobile home units in various communities prior to the enactment of rent control. Although it is difficult to find data for this analysis, it is even more so for park value data.
In the absence of empirical information on wealth transfers, it may be worthwhile to look at the potential for implicit contracts to affect rents. The typical constraint on a landlord under implicit contracts would be that any attempt to extract above-market rents from existing tenants would make it difficult to attract new tenants. Hence, the nature of the park and the business of the owner may have substantial implications. A park that is still expanding or one where the owner is in the business of developing mobile-home parks would be much more constrained by reputational concerns than one that is full and owned by someone with no intention of developing other parks. Hence, it may be possible to look at the likely implicit contracts and make some judgments as to whether rent increases are constrained or are likely to reflect an attempt to appropriate quasi-rents.

The above analysis seems consistent with the conclusion that implicit contracts were largely working before rent controls, and that rent controls were an attempt to transfer ownership benefits from landowners to coach owners. If the opposite was the case and rent gouging was common, one might expect that few people would be interested in owning mobile homes. The fact that in California in the period preceding rent control the supply of parks increased rapidly while it virtually dried up when controls were enacted, makes it difficult to accept the notion that rent controls largely offset opportunistic behavior.

VIII. Summary and Conclusions

A variety of possible reasons for divided ownership of housing assets have been presented. In general, it appears that this form of organization must, on balance, offer some benefits because, particularly in the absence of rent controls, new mobile-home parks are being built. This implies that the implicit contract between landlords and tenants generally works in reining in opportunistic behavior. Yet we do observe rent control ordinances for mobile home parks in many communities.

It is clear that under rent control the owner of the housing unit tends to receive a valuable right to use the property at a reduced rent. It is less clear, whether and, if so, to what extent, before a control ordinance was enacted the landlord charged rents that were inflated because of his ability to hold up tenants owning costly to move housing assets.

It is worth noting that if rent gouging were a substantial problem prior to rent controls and rent controls were effective in eliminating this practice, then mobile-home parks should have become a more attractive form of home ownership after the controls were imposed. Landlords might have perceived a net benefit from the potential to gouge rents, but if the practice were widespread few people would want to own mobile homes. Hence, if rent control primarily prevented opportunistic behavior, an increase in the number of parks might be expected. Thus, the observed decline appears to be more consistent with the ordinances being primarily an attempt to transfer benefits from owners to renters.

In any case, these controls transfer wealth from landlords to tenants and reduce the number of new parks built. Hence, it is important to determine if the impetus for rent controls comes in response to opportunistic behavior by park owners or is simply an attempt to capture rising land values on the part of tenants. If they are a response to opportunistic behavior, then the cost in terms of reduced development of parks may be necessary to safeguard existing tenants; however, if it is not, it must be recognized that the impact is to seriously curtail this form of housing as an option.